An Address

ON

THE SELECTIVE INFLUENCE OF POISONS IN RELATION TO DISEASES OF THE NERVOUS SYSTEM.

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GENTLEMEN,—When your President did me the honour of asking me to give an address to the Medical Society of this city I accepted upon the condition that he should suggest a subject. He kindly replied that he thought something concerning the "new neurology" would be acceptable.

The term "new neurology," however, is correct and it is incorrect. It is correct inasmuch as this science is progressive, yet it is incorrect because the new neurology began half a century ago with the cellular theory of Virchow and the neuron theory foreshadowed by Waller, and within the last 20 years again revived, expanded, and applied, as Waller had indicated it would be, to the explanation of disease. With the revival of the theory of the trophic and genetic independence of every nervous unit or neuron has grown up a new pathology of the nervous system, depending not only upon the neuron theory but also upon the fact that every cell possesses a bio-chemical sensitiveness to its lymph-environment termed "chemiotaxis." It is the failure of the neuron under the influence of an altered environment, or owing to inherent vital prostration to carry on the processes of assimilation and dissimilation which are essential for the well-being of every cell, that is the essential cause of a class of diseases of the nervous system which include functional diseases and primary degenerations. These are primary diseases of the nervous system as distinct from diseases within the nervous system; and by the latter I mean those diseases which arise primarily from affections of the blood-vessels supporting and inclosing tissues, causing secondary changes in the nervous elements—familiar examples of which are afforded by the destruction of nervous tissue caused by hæmorrhage, thrombosis, and embolism, by tumours, injury, and diseases of the membranes and neuroglia tissue. The symptoms are usually coarse, random, and dependent upon mechanical disturbances of the circulation—often sudden in onset, and in most of these conditions non-progressive; whereas the primary intoxications and degenerations are, as a rule, symmetrical, related rather to the functions of groups, systems, and communities of neurons, and occasioned directly or indirectly by some general toxic condition of the blood or lymph. It is to this latter class of affections of the nervous system that I shall particularly draw your attention this evening.

Although the toxic substance circulating in the blood must come into contact with all the neurons equally, yet we find that in a great number of instances particular groups, systems, and communities of neurons, subserving special functions, are especially and, indeed, not infrequently solely affected by particular poisons. It is this selective action of certain poisons which impresses upon our minds a clinical picture that enables us in a great number of instances to recognise the cause by the character of the symptoms. In illustration thereof I need only cite tetanus and rabies. Although it must be admitted that in every form of intoxication of the nervous system individual temperament may vary the complexion of the symptoms to some extent, poisons like tetanus and strychnia have a specific action upon the spinal motor neurons and act upon all individuals in practically the same manner, whether such contributory factors as inherited neurosis, or psychosis, stress, or vascular congestion be present or not.

There are, however, a great number of functional and organic diseases of the nervous system in which poisons circulating in the blood act as contributory, predisposing, or exciting causes to persons with a neuropathic or psychopathic heredity, also to persons who have subjected their nervous system to excessive functional activity or stress. These three factors, *toxæmia*, *stress*, and *hereditary neurosis or psychosis*, combine to form a vicious circle in a majority of cases—a vicious circle which is continually extending its limits and which can alone be broken by removal of one or more of these three factors. Obviously, in the individual, only the first two are capable of withdrawal. The fundamental biological principles underlying all protoplasmic activity, whether it be that of a single independent unit, or the marvellous aggregation of cells or derivatives of cells constituting the human organism, are (1) the preservation of the individual, and (2) the perpetuation of the species, and this is a truism even when applied to the most complex psychical phenomena. Just as the individual is continually striving to adapt himself to his environment, so every individual component cell of the body is striving to adapt itself to its fluid lymph environment. This can only be effected by the harmonious coöperation of the whole, insuring a constant stream of blood of uniform quality whereby physiological metabolic equilibrium is maintained. The nervous system not only serves in maintaining the relation of the individual to his external environment in response to present or past stimuli from without, but it also serves to correlate all the internal activities of the tissues and organs of the body by stimulating here, inhibiting there, and distributing the blood to the tissues in proportion to their activity. The nervous system is enabled to control the activities of all the tissues of the body by impressions conveyed to and from them by nerve fibres to and from various centres; but we also know that the nerve centres themselves are bio-chemically sensitive to the state of the blood occasioned by an organ which is diseased, when all the nervous paths from the organ have been interrupted. The essential property of the nervous elements or neurons is excitability; and poisons act upon the nervous system by increasing or diminishing the excitability of the nervous elements or neurons. Thus poisons which produce motor phenomena produce exciting or convulsive and paralytic or depressing phenomena. Whether a given poison will excite or depress function largely depends upon the dose. Many exciting poisons in small doses produce convulsive effects, but in larger doses depressing effects. The converse is also true of many depressing poisons. Directly or indirectly all poisons act injuriously upon the organism through the nervous system, and nature has provided many defensive means to combat the introduction of poisons from without. Taste and smell are special senses which stand as sentinels to the alimentary and respiratory tracts and generally enable us to avoid the introduction of poisons into the body, although they do not allow us to avoid auto-intoxication or the escape of poisonous products into the blood owing to perverted function of the organs or tissues of the body. One of the most important and dangerous sources of poisons acting upon the nervous system is that due to the growth of microbes, and while the products of microbial growth are usually such as to give rise to unpleasant smells, a certain number of pathogenic organisms—e.g., cholera, typhoid, bacillus botulinus, and enteritidis—may enter the body without being detected by taste or smell. The chemical substances elaborated by the growth of some pathogenic organisms absorbed into the blood provoke vomiting and diarrhœa of central origin—an attempt on the part of the body to eliminate the noxious agent; but these defensive measures, which are of a reflex nervous nature, are insufficient, and another mode of defence is provided by the vital activities of the tissues themselves—viz., the secretion of antitoxins, which not only serve to neutralise the chemical products of the organisms but to paralyse and destroy the vital activities of the microbes themselves. Another defensive action on the part of the tissues is a gradual tolerance of the tissues to perform their functions even with a poisoned environment, and as we shall see later in considering the *habit poisons* the toxic environment of the nervous elements may be in time the condition under which they can best perform their functions. I have already remarked that the functions of the neuron depend upon its excitability—i.e., a bio-physical property by which it is capable of a molecular vibration which is propagated through its protoplasmic substance along definite lines. We speak of a nerve impulse being "cellulipetal" or "cellulifugal," according as the impulse is conducted to or from the cell. Every neuron or nervous unit consists of a cell body and processes, one of which only becomes the axis-cylinder

of a nerve. The whole nervous system consists of these independent cellular units, and although there may be differences of opinion as to whether one nervous unit is connected with another by its branching processes—i.e., a direct protoplasmic continuity—there can be no doubt that each neuron was developed from a separate cell and is therefore genetically independent. The degenerations arising either from injury or disease being limited to definite systems and groups of neurons show, moreover, that they are nutritionally independent. Therefore we are justified in supposing that every neuron acts as an independent organism, has a specific vital energy, and possesses a store of potential upon which the function of excitability depends. If the nervous system is in a normal physiological condition the protoplasm of the neurons is in a state of bio-chemical stability whereby the processes which underlie conversion of potential into active energy under the influence of stimuli are so adjusted that the response is apportioned and appropriate to the stimulus, and there is no tendency for the impulse to act as a fulminant.

Potential energy depends upon the activity of the protoplasm and the maintenance of the balance between constructive and destructive metabolism, but the balance of potential varies in every individual, according to the bio-chemical stability of the nervous elements as a whole or in part. Thus, in neurasthenia, potential is low because the processes of assimilation do not bear a proportional value to dissimilation. The nervous elements suffer essentially only from two morbid conditions—viz., increase of excitability and tendency to fulminate or spread, and diminution or loss of excitability. In the case of motor neurons the two conditions are exhibited respectively by convulsive or tonic muscular spasm and paralysis; in the case of sensory neurons by hyperæsthesia and anæsthesia; but every group of neurons is functionally correlated with other groups, and paralytic phenomena occurring in one group will allow the opposing correlated group to overact; in fact, as Dr. Hughlings Jackson has pointed out, it is not too much to assert that one-half of the symptoms of nervous disease are due to physiological overaction of unopposed nervous influences, and if a poison entering the system has a selective action upon some particular group of neurons, paralysing their function, then an opposing group, which may be functionally depressed, will appear to be over-active. We shall see that this applies not only to such physical phenomena as double vision, a consequence of squint, and of contracture on account of paralysis, but the truth of the dictum may be applied to perverted mental processes—in fact, there is a similarity between a fixed idea and a limb in contracture.

Poisons are either introduced into the body from without or produced within (exogenetic or autogenetic). In either case it is the toxic state of the blood or lymph which causes the morbid nervous phenomena, and the symptoms which arise are dependent upon conditions of either increased excitability or depressed excitability of the nervous elements. We have seen that in one case the selective influence of the poison upon particular nervous structures is dependent upon the chemical properties of the poison itself. It has a specific action, whereas in the other case the poison selects particular structures in the nervous system owing to an inherited or acquired low potential of the nervous elements or an instability of their protoplasm. The poisonous alkaloids, such as strychnia, curare, atropine, muscarine, and pilocarpine, show that they owe their toxic properties to the chemical affinity which certain nervous structures have for these poisons, causing excitation or depression of their function.

But I will particularly call your attention to a series of poisons which have served human beings in various lands to satisfy a strange need of altering and transforming the physiological processes of the mind and of withdrawing themselves from the real world in which they live, by the abuse or daily indulgence of various intoxicant substances introduced into the body in various ways—viz., alcohol, opium, haschish, morphia, cocaine, tobacco, and absinthe, each of which may be characterised by perversion or disturbance of the higher functions of mind, although each drug shows by the specific toxic effects which it produces a different mode of action. As, however, I have previously indicated, individual temperament may impress a special colour on the complexion of the symptoms. The features of acute alcohol poisoning are but too well known. As Maudsley aptly says, "A man in the process of getting drunk displays an abstract and brief chronicle of insanity, going through its successive phases in a short time." In every mental process the whole cerebral cortex is engaged, but it appears probable that certain projection fields or identification centres may under the influence of different toxins be excited or their functions disturbed and perverted in a characteristic manner. Thus visual and auditory hallucinations of a horrid or terrifying character are especially frequent in acute alcohol poisoning, whereas alcohol is indulged in by a large number of people to banish sorrowful recollections, to drown dull care and present troubles. How often it is extremely difficult to decide whether a patient is suffering from *mania à potu*, pure and simple intoxication, or true mania with alcoholism—and especially does this apply to the mania of general paralysis. No doubt such cases have presented themselves to most of the busy practitioners forming my audience, but perhaps I may be permitted to describe the symptoms of an unusual case, for they illustrate this peculiar toxic influence of alcohol.

A man was admitted to an asylum who presented all the symptoms of alcoholic delirium. He had visual hallucinations in the form of black devils which came and perched upon his nose and which emitted foul smells and introduced bitter poisons into his mouth. He would continually move his hand as if to flick them away. The pupils were unequal and there was reflex iridoplegia, with syphilitic chorioretinitis. I therefore came to the conclusion that it was general paralysis with acute alcoholic intoxication, for the patient smelt of drink and there was a very marked history; in fact, he was admitted as a drink case. A week later when I saw him the toxic effects of the alcohol had had time to pass off and he now had an exalted expression and said that angels came and sat on his nose and moistened his lips with honey and breathed sweet perfumes into his nostrils. Possibly an autotoxin may be the cause of the grandiose delirium of this disease.

The mental process by which time and spacial relationship is estimated, depends primarily upon the kinæsthetic sense, although higher controlling centres, existing in the pre-frontal lobes probably coöperate. The primary kinæsthetic ideation centres are situated in the frontal and central convolutions, in which are located not only the efferent neurons which preside over voluntary movements of all the muscles of the body, but also they are the seat of the terminal neurons of the afferent projection system, in which every movement and change of position by muscular action is registered by means of tactile motor sensations coming from skin, muscles, joints, and tendons. Haschish, a poison which is used in Eastern countries and is a common source of insanity, has, it is said, very curious characteristic effects upon perception in this tactile motor ideation centre, for it may produce the most remarkable illusions relating to the notion of space and time. External objects appear extremely enlarged in all their dimensions and time appears indefinitely prolonged. Morphia, like alcohol and absinthe, leads to increased ideation and loss of control of ideas, only much more marked; in fact, control entirely disappears and one idea succeeds another with extraordinary rapidity, each one calling up another without the possibility of staying them. It is persistent and uncontrollable ideation; the highest level centres are depressed, the middle level centres are exalted. It has been affirmed that the weirdly vivid imagination of De Quincey was in a measure due to the opium habit in which he indulged. An interesting physiological fact in connexion with these psychical poisons is that habit renders the abnormal toxic environment of the neuron the normal. Morphia, which has been the best studied and offers the best example in this respect, shows that through long use the state of morphia intoxication may become the normal state of the brain of the individual, so that under this condition only are the nervous elements able to carry on physiological processes of assimilation and dissimilation and perform their functions, for sudden withdrawal of the poison can bring about delirium, hallucinations, and other mental symptoms. There is thus an analogy between the intoxication of the normal brain and the sudden non-intoxication of a brain which, habituated for a long time to a morphinised environment, has adapted itself accordingly.

Of all the extrinsic causes of nervous and mental diseases the abuse of alcohol is the most widespread and potent, for at least 20 per cent. of the inmates of the London county asylums are suffering directly or indirectly from the effects of the abuse of alcohol. Most of these patients, however, have an inherited neuropathic or psychopathic taint, and my

experience as pathologist during the last five years supports the conclusion that alcohol may, in comparatively small quantities or indulged in for comparatively short periods of time, produce in people with an unstable mental organisation marked toxic effects. The effect on the nervous system of chronic alcoholism is dementia, a very characteristic manifestation of the mental degradation being absence of knowledge of time and place and loss of memory, especially for recent events, with personal illusions, indicating a failure of receptivity and the formation of memory pictures in the higher ideation centres. A certain amount of improvement may occur when total abstinence is enforced, which shows that the poison has damaged, but not entirely destroyed, the nervous elements. In cases, however, where the dementia is permanent organic changes may be found in the brain—viz., an atrophy of the tangential, super-radial, and inter-radial association fibres, structures which are usually found damaged in all cases of organic dementia. Besides mental symptoms of alcoholic poisoning there is very frequently, and especially in women, paralysis affecting the lower limbs, although the upper limbs, and even the heart and respiratory muscles—in fact, all the muscles of the body—may be affected in severe cases. The patient becomes helpless and bedridden and death occurs frequently from heart or respiratory failure. Characteristic features of this affection are great tenderness on pressure, especially of the calves, absence of reflexes, a variable degree of skin anæsthesia affecting especially the apices of the limbs, wasting of muscles, alteration of the normal electrical reactions, and frequently pyrexia, but there is no loss of control over the sphincters unless there is dementia. This complex of symptoms points to a peripheral polyneuritis, although marked changes may be usually found by certain methods of staining in the ganglion cells from which the axis-cylinders take their origin. I have endeavoured in the Croonian Lectures to give an explanation of why the extremities of the limbs are most affected as regards movement and sensation and why the effects of the poison as they become more marked lead to the defect in sensation and movement, travelling up the legs towards the centre in the manner one puts on a stocking, and as the effects of the poison wear off sensation returns in the manner one takes off a stocking.

Many other poisons—lead and arsenic, toxins of the acute specific fevers, and toxic states of the blood due to imperfect metabolism, such as occurs in diabetes and gout—may produce, or become an important factor in producing, peripheral neuritis. It is asserted that the toxic amblyopia with central scotoma of tobacco poisoning is due as much to the alcohol as the nicotine, but although it cannot be denied that alcoholic intemperance tends to induce this condition, yet it is certain that tobacco taken in any form by certain individuals has a selective toxic action upon the neurons of central vision. An argument in favour of this is in the case recorded of horses which had eaten the tobacco plant and suffered with amblyopia. Lead is peculiar in selecting the nerve which supplies the extensor muscles of the wrist and fingers, so that dropped wrist is almost characteristic of this form of toxic neuritis; but lead also produces changes in the brain, encephalitis saturnina, a complex of symptoms including dementia, loss of memory, weakened intellect, paresis, and epileptiform seizures, hallucinations of sight and hearing, and mental exaltation or depression. Large numbers of people in Northern Italy and Egypt suffer with pellagra, an affection of the skin associated with degenerative changes in the brain and spinal cord. The people so affected suffer generally from a fatuous melancholy and suicidal impulses, and sometimes from mania. It is supposed that this disease is due to the bad maize upon which the people at times have to subsist. There is also ergotism, a disease which is due to poor people in Russia and Northern Germany being obliged, owing to the failure of the rye crop, to subsist upon bread made from grain which has been attacked by the ergot fungus. The poison thus introduced into the system produces progressive degenerative changes in the brain and spinal cord, which are manifested by psychical disturbances, such as slowness of thought, weakness of memory, dulness of perception, sometimes delirium and incoherence, and other symptoms such as blunted sensibility, dilated pupil, muscular spasms, ataxy, and epileptiform fits, frequently terminating in stupor, coma, and death. The symptoms in both these diseases are due to progressive degenerative changes in the brain and spinal cord, the changes in the latter being closely allied to the changes met with in cases of pernicious anæmia and grave anæmia, which I shall have occasion to refer to later. An acute disease, the symptoms and fatal results of which are due doubtless to the action of a specific toxin upon the neuron, is botulism, which arises from eating meat and fish infected with the bacillus botulinus. It was described first by Ermenghen, who discovered the organism in the food eaten by people who had died with a characteristic group of symptoms in which paralysis of the ocular muscles was an important symptom. The toxin produced by this organism has been separated by Ehrlich, and it is extremely virulent, the most minute dose being sufficient to produce fatal results. I shall show you the changes in the nerve-cells produced by this poison, and also the fatty degeneration of the muscle which occurred after an extremely small fatal dose had been administered, so that an animal was able to survive the effects of the poison for eight days, thus allowing this change to take place. I could cite a number of other poisons which may enter the system from without and which would give rise to characteristic complex of symptoms did time permit.

I shall now pass on to the consideration of those poisons which are produced within the body (1) by the perverted functions of the organs or tissues, and (2) by the action of micro-organisms upon the living fluids and tissues of the body.

Certain normal constituents of the blood, e.g., carbonic acid, sarco-lactic acid, and the series of nitrogenous waste products, the highest oxidised, most soluble, and least harmful of which is urea, may accumulate in the blood, owing either to excessive production or defective elimination, and toxic environment of the neuron may supervene. Take, for example, uræmia, the nervous manifestations of which are headache, drowsiness, or unconsciousness, epileptiform convulsions, and sometimes symptoms of polyneuritis, showing, therefore, that the normal excitability of certain neurons (higher controlling) has been depressed, while that of others is increased through the effect of the poison. Graves's disease is possibly an example of an increased functional activity of a gland, giving rise to an increase of its secretion which, although essential, as myxœdema shows, for the proper metabolism of the body as a whole and of the brain in particular, yet when the secretion is in excess causes nervous phenomena in the form of exophthalmos, fine tremors, palpitation, tachycardia, and sometimes psychical phenomena in the form of mania or melancholia. In the process of digestion a number of toxic albumoses and other substances are produced which, although absorbed in the alimentary canal, are prevented by the vital action of the lining epithelium and the bio-chemical processes occurring in the liver from entering the systemic circulation. If these structures are prevented by functional depression, inflammation, or disease from performing their normal functions, toxic conditions of the blood may arise and be a source of morbid nervous phenomena. Excess of uric acid in the blood is associated with high arterial pressure, probably owing to vaso-motor irritation, accompanied by deposits of lithates in the urine, headache, and nervous irritability; it is an indication of imperfect metabolism, as shown by the fact that marked improvement occurs by suitable diet and treatment. Phosphoruria, oxaluria, and glycosuria are all tokens of deranged metabolism and the circulation of blood of impure quality, and may be associated with various nervous disturbances. Cholæmia resulting from obstructive jaundice gives rise to psychical depression and may even be attended by stupor. The term "melancholia," signifying "black bile," indicates the importance which has long been attached to the liver as an organ, the derangement of which causes nervous depression. The rapidly fatal result preceded by delirium, motor irritation, delusions, stupor, and coma occurring in acute yellow atrophy of the liver demonstrates the important part which this organ plays in maintaining constant the normal quality of the blood. The delirium and coma which sometimes supervene in diabetes, heralded by acetonæmia, are another instance of auto-intoxication. Again, in pernicious anæmia and certain grave anæmias the characteristic combined sclerosis due to degenerative changes in the spinal cord found in many of these cases is due not so much to the defect in the red corpuscles as to some toxic agent absorbed into the portal blood from the alimentary canal which leads to hæmolysis and acts as a poison upon those nervous structures which are found in a state of degeneration.

Poisons circulating in the blood and lymph the products of infective micro-organisms which have established themselves in the body.—In the course of the acute infectious diseases and also the last stage of many general diseases delirium is a frequent complication. It may be explained by the fever, but I do not think, unless there is hyperpyrexia, that the rise of temperature is the cause so much as the toxic condition of the blood. "The last to come and the first to go" is an axiom which can be applied to the effects of toxic conditions of the blood in the production of delirium. The highest specialised controlling functions of the brain depend upon cortical systems of neurons, which are evolutionally and morphologically the latest developed, therefore are most readily affected by a poisoned environment, and vascular congestion or anæmia of the brain tissues observed post mortem and considered by some authorities to explain the symptoms are in reality merely accidental or concomitant conditions. Shakespeare, whose psychology will last for all time because it is the breath of humanity in all its varied aspects of health and disease, clothed in his own poetic language the cause and fateful omen of delirium in an infective disease:—

> The life of all his blood
> Is touched corruptibly; and his pure brain
> (Which some suppose the soul's frail dwelling house)
> Doth by the idle comments that it makes
> Foretell the ending of mortality.

Again, in his description of Falstaff's death he indicates the mental state of impending dissolution, for Dame Quickly says:—

> After I saw him fumble with the sheets and play with flowers and smile upon his finger ends I knew there was but one way, for his nose was as sharp as a pen and a babbled o' green fields.

Likewise the struggle between the poison and the defensive action of the tissues culminating in a supreme effort of the latter and the advent of the crisis was recorded in the words:—

> Before the curing of a strong disease,
> Even in the instant of repair and health,
> The fit is strongest: evils that take leave
> In their departure most show evil.

It does not always happen, however, that evils take their departure without leaving a scar, and various nervous and mental diseases may date their origin from an acute specific fever. Sometimes it may be a persistence of the nervous derangement which manifested itself during the course of the disease; more often, however, the toxæmia has produced a state of low potential or a state of bio-chemical instability in certain nervous structures; or it may happen that the poison may have contributed to the development of a scar in some inherited *locus minoris resistentiæ* of the nervous system, the result being that certain groups or systems of neurons are in a state either of depressed or increased excitability—i.e., there is a morbid condition in which the normal stimulus will not produce a response, or there will be a tendency for the tissue when acted upon by slight abnormal stimuli to fulminate. A certain number of cases of puerperal insanity, which usually occurs within a few days of delivery, are due to septic blood-poisoning in psychopathic or neuropathic individuals. Moreover, acute specific fevers occurring in persons suffering with epilepsy, whether idiopathic or from chronic brain disease, are ushered in by convulsive seizures, indicating the bio-chemical sensitiveness and instability of certain nervous structures in the brain to the altered state of the blood. Again, children in whom the higher inhibitory controlling centres are imperfectly developed, especially if there is any family neurosis, manifest he onset of an acute disease by convulsions.

The best examples of selective action of microbial toxins are afforded by rabies and tetanus. In rabies, although the whole nervous system is charged with the poison, the medulla oblongata, as shown by the symptoms and the microscopical evidences of degeneration of the neurons in that region, is especially affected. In tetanus the characteristic bacilli are only found in the wound. They must, therefore, be comparatively few in number, but they elaborate a virulent poison which affects particular groups of neurons. The fact that lock-jaw nearly always occurs first shows that the poison selects the motor nucleus of the fifth nerve, but it is remarkable that experiment has shown that the tetanus toxin, if mixed with an emulsion of nervous matter before injection into an animal, loses its toxicity, showing its affinity for nervous matter, also a power of absorption of the poison by some chemical substance in the nervous matter. Again, it is probable that some toxic agent absorbed from the alimentary canal having an affinity for the motor neurons, all of which are not equally susceptible to it, is the cause of tetany. It is generally believed that in diphtheria a neurotoxin is produced by the local action of the bacilli, for they do not become freely generalised in the blood and tissues. Whether the poison is a direct product of the bacilli themselves or is an autotoxin created in the body itself by an influence exerted on the living fluids and tissues by a ferment-like product of the bacilli has not been determined, but whatever may be the source of the toxin its effects show a selective affinity for certain nervous structures, as shown by the complex of symptoms which arises. Some people assert that chorea is due to a microbial infection and the result of the action of their toxic products upon certain systems of neurons in the brain, but the evidence is probably as yet insufficient, although the hypothesis is plausible, especially if (as seems now probable) it be shown that rheumatic fever, with which this disease is so frequently associated, is due to that cause. Influenza has, it seems, a specially depressing influence upon the nervous system. The frequency with which this disease is followed by anosmia is doubtless due to the primary seat of infection being the nasal mucous membrane. Many severe neuroses and psychoses date their origin from an attack of influenza.

Finally, I shall refer to a poison which is responsible for a large proportion of the organic nervous diseases which are met with in practice—syphilis, the virus of which may act in two ways. It may produce disease within the nervous system, attacking the supporting and nutrient vascular tissues. It shows a predilection to attack certain structures, especially the inner coat of the cerebral arteries of the base of the brain. Moreover, if it attacks the membranes, it is the base which is especially liable to be affected. There is an explanation for this, for probably the syphilitic organism or contagious particle finds the abundant cerebro-spinal fluid in the subarachnoid space in this situation a favourable region for its multiplication, but why the third nerve should be especially picked out by the poison, and in the great majority of instances on one side alone, has received no adequate explanation. So frequently is this nerve affected in syphilitic disease of the base of the brain that Ricord and Fournier designated paralysis of the third nerve, especially ptosis, "*la signature de la vérole.*" Syphilis, also, is the most important factor in the production of two primary progressive degenerations of the nervous system, one affecting especially the posterior spinal neurons, the central projections of which form the afferent systems of fibres of the posterior columns of the spinal cord—viz., locomotor ataxy—the other affecting especially the frontal and central convolutions of the cerebral hemispheres, general paralysis of the insane. Uhtoff found reflex rigidity of the pupils 492 times among 4000 insane; of these 421 (85·5 per cent.) were paralytic dements.[2] Uhtoff and Möli found the light reflex absent in about half the cases. A striking instance of the selective action of the syphilitic poison is shown in the fact first pointed out by Sir William Gowers, that only in persons affected with acquired or inherited syphilis is the symptom known as the Argyll-Robertson pupil found; indeed, it is sometimes the only symptom. Seeing that this is the most common objective phenomenon in the two diseases mentioned it strengthens the presumption, based on experience, that the syphilitic poison is the essential cause of the two diseases in the majority of instances. Again, in both these diseases a primary progressive degeneration of the optic nerve, in which the vessels have normal appearance—viz., grey atrophy—is frequently met with. I found in 130 consecutive post-mortem examinations made upon general paralytic patients at the Claybury Asylum naked-eye atrophy of the optic nerves in nine cases—nearly 7 per cent. In the Croonian Lectures I stated 10 per cent. as suffering with optic atrophy, but this calculation was based upon cases which I had especially investigated and included a number of juvenile and tabetic cases. The soft sore as a cause of these parasyphilitic affections is well known, and various theories have been put forward to explain why this should be so. To my mind it indicates, in the majority of cases, a mild attack of syphilis. Possibly the poison has been modified by inherited partial immunity, possibly by mixed infection, and both Hitzig and Buzzard have suggested that under such conditions as will produce a

[2] Berliner Klinische Wochenschrift, 1886, Nos. 16 and 17.

soft sore there may be several poisons, one of which is specially injurious to the vitality of certain structures in the nervous system. One finds an analogy in diphtheritic paralysis, for it is a matter of experience that the mild cases are very frequently followed by toxic symptoms affecting the nervous symptoms. In fact, they may be the first evidence of the disease for which the patient is seen by the medical practitioner who ascertains then that the patient (and several others in the house) had suffered from sore-throat. It is remarkable how very slight may be the symptoms of syphilitic poisoning in married women who suffer with miscarriages, premature births, and give birth to syphilitic children. I have investigated 30 cases of juvenile general paralysis. In 80 per cent. of these I found a history or signs of syphilitic infection. Although in 50 per cent. the children showed characteristic signs of congenital syphilis, yet the mothers seldom complained of any illness, nor could I obtain any evidence in the majority of cases that they had had any symptoms of the disease. I am rather inclined to believe that spermatic infection of the ovum from the syphilised father may in some of these cases have taken place, and it is conceivable that as the syphilised fœtus has developed gradually increasing doses of the toxin absorbed by the mother's blood have given her an immunity. Whereas in the adult form of the disease males are much more frequently affected than females, in juvenile general paralysis when the chances of syphilitic infection are equal the two sexes are affected equally.

A Lecture
ON
PLAGUE.

Delivered at the London Hospital on Nov. 22nd, 1900,

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LADIES AND GENTLEMEN,—I appear before you this afternoon at the request of the College Board that has done me the honour of inviting me to give you some of my experiences of this now widespread disease, plague. I would incidentally mention that it is 22 years since I was in this theatre as a student. London Hospital men wander far and wide, and it has been my fate to spend 13 years in the Far East, during which time I have practically had the management of three epidemics of this disease. During these outbreaks we have had the services of a staff of nursing sisters, no fewer than nine of whom hailed from the London Hospital. I feel it my duty as well as a privilege to pay a tribute in the college attached to this hospital to the noble services rendered by these ladies, in the performance of whose duties two unfortunately lost their lives.

I have been requested to speak to you on the diagnosis of plague and the measures necessary to prevent its extension. Plague may be defined as an acute infectious febrile disease caused by the introduction into the system of a specific bacillus. In order to diagnose the disease a knowledge of the symptoms and post-mortem appearances is necessary.

SYMPTOMS.

The disease commences suddenly, without prodroma, with a rigor, followed quickly by great prostration, fever, and marked pain at the place where the bubo subsequently appears. After the onset there are headache, great thirst, vomiting, diarrhœa, marked weakness, and, as a rule, intense mental depression. The skin is hot and dry and occasionally jaundiced. The facies is characteristic. The countenance is drawn, the conjunctivæ are injected, and the eyes are sunken. The patient presents a dull, heavy, stupefied look. Sometimes this is replaced by an expression of terror. The tongue is swollen, red, and coated with a greyish white fur. Occasionally the disease is ushered in with violent delirium, the patient being sometimes quite maniacal. At other times the patients are quiet and indifferent to their surroundings owing to a deadening of the mental faculties. Then appear the buboes or enlarged lymphatic glands, to which character the name "bubonic plague" is due. These are the most constant and characteristic signs of plague and they appear at any time in the first five days. The fever is generally high—from 103° to 105° F.—at the onset, lasting from six to 10 days and reaching its acme from the third to the fifth day. Gradually then it falls to the normal. After the first stage there is often a secondary rise due to suppuration. Occasionally we meet with petechiæ or pustular eruptions and carbuncular affections of the skin. These latter begin with ecchymoses, which increase in size and become covered with vesicles, the surrounding skin being swollen and brawny, due to the effusion of inflammatory serum, a central slough often forms which separates, leaving a gangrenous ulcer.

Buboes.—With reference to the buboes or glandular swellings in 73 per cent. of the cases these appear varying from the size of a pigeon's egg to that of one's fist. In the remaining 27 per cent. the glandular swellings are much smaller, varying from the size of a pea to that of a bean. These smaller lesions occur most frequently towards the end of an epidemic when the symptoms generally are milder. These buboes are accompanied by a painful peri-glandular swelling which is so painful that on the least pressure the patient winces and cries out. The most frequent sites of the buboes are the groin, the axilla, the neck, and the submaxillary region. The relative frequency is as follows: in 60 per cent. they occur in the groin, in 16 per cent. in the axilla, in 15 per cent. in the neck, in 1·5 per cent. in the submaxillary region, and in exceptional cases they also appear in the elbow and popliteal space. In the groin the femoral glands are those most frequently affected. The swelling is rapid and accompanied by so much pain that the patient lies with his thigh flexed and abducted, there is inflammation of the surrounding peri-glandular connective tissue, the skin over the swelling is red and œdematous, very often a bleb forms on the surface, and in 90 per cent. of the cases the bubo suppurates. In addition to these changes in the external glands the internal lymphatic glands are frequently affected, more especially the mesenteric.

To particularise, one may say in regard to the alimentary tract that the lips are dry, the tongue at the onset is swollen and red and coated with a greyish-white fur; usually on the second or third day it has become dry and brown. This brown appearance, especially amongst the Chinese, is very characteristic. The mucous membrane of the pharynx is red and the tonsils are often congested. The appetite is diminished and there are frequent vomiting and intense thirst. Diarrhœa is common at the onset as well as in the later stages; during the fever constipation is the rule.

Respiratory tract.—As a rule there are no symptoms pointing to this tract, but there is occasionally a painful dry cough with signs of dry pleurisy. I am referring to the ordinary bubonic type of the disease.

Cardiac.—In severe cases there is evidence of implication of the heart muscle; the first sound is prolonged, the pulse is rapid and soon becomes soft and compressible, and as the end approaches it is very irregular.

Urinary system.—The secretion of the urine is frequently diminished or altogether suppressed at the onset. In 95 per cent. of the cases in the epidemic in 1896 we found albumin to be present at the commencement of the disease, but this disappears with the decline of the fever.

Nervous symptoms.—These are very marked and consist of deafness, distressing sleeplessness, muscular twitchings, and either delirium or apathic listlessness merging into coma. Pregnant women in many cases abort. Convalescence in favourable cases commences with the decline of the fever at the end of the second week, but it is always long and very often much delayed by suppuration.

Mortality.—There is no disease with such a high mortality. Amongst the Chinese not treated in the hospital the mortality was 90 per cent. Amongst those treated in the hospital it varied in different epidemics from 73 to 88 per cent. Of the Europeans attacked the mortality is much less, averaging from 40 to 50 per cent. During the height of an epidemic the cases are speedily fatal, death often taking place from quite unexpected collapse. At the end of an epidemic the cases are much milder in degree, so that we find the mortality of 90 per cent. at the beginning reduced to 45 per cent. at the close.

POST-MORTEM APPEARANCES.

To diagnose the disease it is necessary, as I have stated, to

have a knowledge of the post-mortem appearances, as the first case may be met with in the cadaver. There is no marked emaciation unless death occurs late in the disease, or from some secondary cause such as long-continued suppuration. Rigor mortis is not well marked. The expression of the countenance is usually calm. On the skin there are petechiæ occasionally found and carbuncular swellings; these show hæmorrhages and infiltration into the subcutaneous tissue. With regard to the brain the cerebral membranes are always congested and œdematous and in most cases clouded; there are small ecchymoses here and there. In the brain substance there is no marked change. As to the chest, in the pleura are small hæmorrhages, with some moderate effusion into the pleural cavities; the mediastinal glands are sometimes enlarged and the lungs are congested and very œdematous, the lower lobes especially so. There is occasionally pneumonic infiltration. The bronchial glands are sometimes enlarged. The pericardial area presents punctiform ecchymoses, the right side of the heart is generally distended with blood, and the heart muscle is pale and flabby, the parenchyma being clouded or in a state of fatty degeneration. As to the abdomen, the omentum and peritoneum present small or large extravasations of blood; these are sometimes very extensive. The mesenteric and retro-peritoneal glands are in nearly all cases enlarged and they present a bluish-red appearance. Occasionally, in severe cases, extensive hæmorrhages can be traced from the crural canal along the lymphatics of the pelvis to the perirenal connective tissue. The spleen is enlarged always to twice or even four times its usual size; it is soft and hyperæmic. The liver also is enlarged; there may be extravasations of blood under its capsule, the parenchyma is clouded, and in those cases in which there has been jaundice the organ is of a greyish-yellow colour. The stomach is often contracted; the mucous membrane is hyperæmic and is thickly coated with mucus and studded with small or large hæmorrhages. The intestines present the same appearances; in addition, the solitary glands are hyperæmic and Peyer's patches are enlarged and occasionally present hæmorrhages. The kidneys are enlarged and congested, with small ecchymoses under the capsule. Small hæmorrhages are found in the mucous membrane of the pelvis and coagula may be seen plugging the calices. The urinary bladder presents punctiform hæmorrhages in the mucous membrane and the urine occasionally contains blood. With regard to the glands, in the external lymphatics or buboes the changes are much more marked than they are in the internal lymphatics. The buboes are swollen lymphatic glands with the surrounding connective tissue œdematous and infiltrated with blood. The glands are red or bluish-red and are frequently studded with purulent foci; they often contain hæmorrhagic extravasations. In severe cases the glands are matted together to form one huge boggy mass which may extend up the crural canal to the pelvis. In severe cases the iliac and lumbar glands have been affected, so that there may be a chain of enlarged glands extending up to the diaphragm, and hæmorrhages into and around these glands are frequently found.

To sum up, the post-mortem changes met with in this disease are as follows: characteristic inflammatory swellings of the external and internal lymphatic glands, especially of the mesenteric glands, accompanied by enlargement of the spleen, by inflammatory changes in the structure of the liver, kidneys, and heart, by inflammation of the cerebral membranes, and by the production of diffuse small punctiform hæmorrhages.

VARIETIES OF PLAGUE.

The varieties of the disease are three: the bubonic, the pneumonic, and the gastro-intestinal.

1. *Bubonic.*—With regard to this variety, it is the one which I have been describing. 70 per cent. of the cases come under this heading. Infection occurs through the skin.

2. *Pneumonic.*—Fatal as is the bubonic variety, the pneumonic is still more so; indeed, nearly all who are attacked by it die. It is induced in animals by applying the bacilli or the sputum of a pneumonic case to the mucous membrane of the nostrils of, say, guinea-pigs, by means of a brush. The sputum of patients attacked by this variety presents almost a pure culture of plague bacilli. Infection occurs by means of the air-passages, and it was from this form that the two sisters in the Government Civil Hospital at Hong-Kong died in the epidemic of 1896. The onset is marked by a rigor, attended by cough and some dyspnœa with slight fever. The temperature soon rises to 103° F. or higher, and in a few hours the patient commences to spit up a quantity of thin blood-stained sputum. The dyspnœa rapidly becomes more marked, there is much cardiac depression, the pulse is rapid and compressible, and there are extreme restlessness, want of sleep, and early delirium; the auscultatory signs are those of catarrhal pneumonia. The disease in this form runs a very rapid course, and is almost invariably fatal within three days.

3. *Gastro-intestinal.*—This variety, like the pneumonic, has no external buboes and the cases are, as a rule, rapidly fatal. Post mortem the changes already described in the mesenteric and retro-peritoneal glands are the most constant; the solitary glands are also enlarged and inflamed and the mucous membrane of the intestines is thickly coated with mucus and studded with small hæmorrhages. In 21 fatal cases of this variety in the epidemic of 1896 plague bacilli were found in the fæces.

BACTERIOLOGY.

It was at Hong-Kong in 1894 that Kitasato and Yersin discovered the bacillus in the buboes and organs of those who had died from the disease and also in the blood of patients who were suffering from the disease. That this bacillus is the cause of the disease is now universally held, the reasons being: (1) the presence of the bacillus in the blood and organs of a person suffering from, or who has died from, the disease; (2) that if a culture of the bacillus obtained from one suffering from the disease be inoculated into a susceptible animal this animal contracts the disease and dies; (3) the bacillus can be obtained from the spleen and other organs of the infected animal; and lastly, (4) the bacillus thus obtained will infect other susceptible animals. This distinctive micro-organism is found in fresh bodies in the spleen and buboes in great numbers, in smaller numbers in the affected lymphatic glands, in the heart, lungs, liver, and kidneys, in the walls of the stomach, in the intestines, and in the blood; in the last-named it is also found in the interior of the blood corpuscles. It is likewise to be detected in the fæces, in the urine, in the vomit, and in the saliva. The bacillus is a short thick rod with rounded ends. On an average it is about one millimetre in length and 0·3 μ in breadth. It is stained by basic aniline dyes, the ends of the bacillus taking the stain more deeply than the centre, thus presenting a bipolar appearance. It is not stained by Gram's method. Examined in media kept at 37° C., which is that at which it thrives best, it is motile. Spore formation has not been observed. In some specimens the appearance of a capsule can be made out. To find the bacillus, a small quantity of blood is obtained by puncturing the finger or lobe of the ear, after carefully washing the skin with soap and water and afterwards with a solution of corrosive sublimate. The blood is then spread on glass slides and dried and stained with some aniline dye, carbol fuchsin by preference. Blood obtained by puncturing the buboes or glandular swellings nearly always contains the bacilli in large numbers.

In 1896, out of 273 cases treated in the hospital, in 221 the presence of the bacilli in small numbers was found in the blood microscopically. As a rule only four or five in any one field of the microscope are found. If the bacilli are free and numerous the case is a serious one. If the bacilli are not found microscopically a more exact opinion is obtained by culture experiments on animals. The most favourable culture medium for this growth in Hong-Kong was found by Wilson to be a 2 per cent. alkaline solution of peptonised bouillon containing 1 per cent. of gelatin. After injection the bouillon remains clear and transparent; the bacilli grow on the surface in the form of a slight whitish clot. The fluid remains clear if undisturbed, but the least movement causes the growth to sink to the bottom of the tube, or for a time the fluid appears cloudy. The urine or the blood may also be examined on agar plates. If the bacilli are present small round greyish-white colonies appear within 24 hours. To make the diagnosis still more precise inoculations of the blood into a susceptible animal, such as the rat, the mouse, the guinea-pig, the rabbit, the pig, or the monkey should be made. The mouse or the guinea-pig is the animal which is most suitable. To communicate the disease to either it is only necessary to prick the thigh with a needle which has been dipped into the culture. The animal refuses food, it staggers, the respirations become hurried, and it dies in from 36 to 48 hours. It

is essential to use a recent culture, otherwise the virulence is lowered. The characteristic post-mortem changes are found in the animal—e.g., at the site of inoculation there is inflammatory œdema, the lymphatic glands are enlarged, the spleen is enlarged and congested, and plague bacilli can be obtained from the spleen, the liver, and the glands.

Plague bacilli are also present in profusion in the sputum of pneumonic patients. In examining the pneumonic sputum advantage is taken of the fact that plague bacilli grow at a much lower temperature than normal microbes. In order to examine sputum for the presence of these bacilli the sputum is first diluted with a small quantity of boiled water; several tubes of bouillon are fertilised with this diluted sputum and are exposed to a temperature not higher than 23° C. At this temperature the pneumococci and streptococci will not grow. The plague bacilli will develop and in two or three days plague colonies will be seen. In order to obtain cultures in a pure state fresh tubes of bouillon should be inoculated. The introduction of pure cultures into the stomach, either by mixing them with food or by giving them with the stomach-tube, is always fatal to rats, guinea-pigs, and rabbits, and the same result occurs if fragments of the organs of animals dead from the disease are used. The post-mortem changes in the mesenteric glands and intestinal follicles are more marked in these cases than they are in the cases of those animals which have been killed by subcutaneous injection also the external glands are much less swollen. Wilson found at Hong-Kong that guinea-pigs and monkeys fed with pure cultures died from the disease. A pig fed with the spleen of a man who had died from plague succumbed to this disease in three weeks. It is found then by microscopical and bacteriological examination that plague is a disease in which the blood, the organs, the saliva, the urine, and the fæces of those affected with, or who have died from, it contain a specific bacillus, pure cultures of which inoculated into various animals produce in them the same disease. Hence its infectivity, a point which I cannot too strongly impress upon you. Medical men recognise this, but there is a tendency on the part of students to dwell more on the changes in the organs and on the pathognomonic symptoms of a disease. Bacilli have been demonstrated in the saliva and fæces of patients five days after the first onset of the fever; in blood obtained by puncturing the connective tissue of the bubonic swellings and in urine plague bacilli have also been detected from four to six weeks after the onset of the disease. Mice, guinea-pigs, and rabbits when inoculated by cultures attenuated either by cultivation through several generations in artificial media or by heat are gradually rendered immune against inoculation with virulent cultures; from this arises the treatment by antitoxic and preventive serums. Serial inoculation diminishes or destroys the virulence of the bacillus; this may account for the spontaneous subsidence of the disease, also for the smaller death-rate at the end of an epidemic.

DIFFERENTIAL DIAGNOSIS.

The diseases for which plague may be mistaken are typhoid fever, typhus fever, and splenic fever, and in the pneumonic variety it may at its onset be mistaken for influenza. It is distinguished from typhoid fever by its sudden onset, by the absence of the rash and the abdominal symptoms, and in a few days by the appearance of the bubo. Typhus fever has a longer fever stage—viz., 14 days. The difficulties chiefly occur in the severe cases without buboes and in the mild cases with slightly enlarged glands which simulate adenitis, the so-called pestis minor, or pestis ambulans; in all cases, however, the diagnosis can be established by finding the characteristic bacillus.

METHODS TO BE USED TO PREVENT EXTENSION OF THE DISEASE.

In order to prevent the extension of plague we must know how the bacillus is conveyed. Plague bacilli exposed for four hours to sunlight at a temperature of 108° F. no longer grow on bouillon. Similarly exposure for four and a half days to sunlight at a temperature of from 84° to 88° F. (the ordinary temperature at Hong-Kong in the summer) produces the same result. In the exsiccator the bacillus succumbs in three hours. From these facts, and because it has never been found in the air, it is most improbable that plague is an air-borne disease. It is conveyed by men suffering from the disease, by clothing contaminated by urine, fæces, or expectoration of patients suffering from it, and by animals such as mice, rats, and pigs coming from infected districts.

The channels of infection are (1) the skin, (2) the respiratory tract, and (3) the gastro-intestinal canal. The skin is by far the most common source of infection by means of wounds, abrasions, or insect bites. Yersin and other observers have confirmed the fact that it is communicated by fleas. In the respiratory tract infection occurs by the discharge from the nose or mouth. Experiments have proved that guinea-pigs may be infected by simply daubing the nostrils with the sputum from a case of pneumonic plague. With regard to the gastro-intestinal tract, although this is not the usual way of infection, to prove that it may occasionally occur I would call attention to Wilson's experiments in feeding pigs with plague bacilli. It is also just possible that in the epidemic of 1896 the disease may have been introduced to Hong-Kong by infected pigs. In August of that year a number of pigs died on a steamship coming from Pakhoi to Hong-Kong; plague was then prevalent at Pakhoi. Wilson examined some of these animals and found that the post-mortem appearances were similar to those met with in plague. A bacillus was obtained from the organs of these pigs which was not to be distinguished from the bacillus of man; the injection of cultures of this bacillus in animals produced the same pathological changes met with in plague. In 1899 Cheung Chau, a small island some 15 miles from Hong-Kong with 1000 inhabitants, was almost decimated by plague. On inquiry I found that preceding the outbreak there had occurred an epidemic amongst the pigs on the island and during that time diseased pork was selling at about one-third the usual price. The Chinese eat sun-dried pork—that is, pork which has not been cooked. Wilson found that plague bacilli remained active for three days in pork which had been boiled if it had not undergone decomposition. It might be said that the human gastric juice would kill the bacillus, but that has not been proved. Wilson found that the bacillus lived for three days in a one-half per cent. solution of hydrochloric acid. Another point in favour of food infection is that in infected houses frequently members of only one family are affected. As with cholera so with plague, the water from an infected area must be regarded as dangerous, seeing that this may be contaminated with plague bacilli by means of the urine and fæces from patients suffering from this disease.

Having dealt with the methods by which it is conveyed we are better able to state the measures required to combat the disease. I will divide these into two: first, public hygiene; and second, the precautions necessary for the individual, or private hygiene.

HYGIENIC REGULATIONS.

Public hygiene.—The importation of the bacillus must be prevented as far as possible. This is the duty of the port medical officers of health, supervised by other medical officers and the inspector of the Local Government Board. If a person arrives from an infected port suffering from plague, or from an illness suspected to be plague, he must be isolated and his dejecta must be rendered harmless. The cabin occupied by the patient, and the ship generally, must be disinfected. All fomites belonging to the patient should be destroyed. All those who have been in contact with the infected person must be kept under medical supervision for 10 days as this is supposed to be the incubation period. As with cholera so with plague, all water from an infected port should be regarded as dangerous. Should the disease occur on shore those suffering from it should be isolated, the dejecta should be burnt, and the house and the articles belonging to the patient should be thoroughly disinfected. All persons who have been in contact with the patient must be segregated under medical supervision for 10 days. The hygienic condition of privies, drains, &c., must be attended to, and a house-to-house visitation of the infected neighbourhood should be made. Meat from infected ports should be inspected. Rats should be destroyed, as it seems that they have played an important part in the production of some epidemics. In China dead infected rats are frequently precursors of outbreaks and are found lying dead in the streets. Patients who have died from the disease should preferably be cremated.

Private hygiene.—During the prevalence of the disease those in attendance on the sick should maintain perfect cleanliness of the person; the hands should be frequently washed and watch should be kept for the slightest abrasions or wounds of the skin. All attendants on the sick should not eat in a sick room and should be most careful to disinfect their hands and face. All food should be well cooked and the dishes should be cleansed with boiled water. Houses

known to contain, or suspected of containing, cases of plague should not be visited unless at the call of duty.

I have necessarily only dealt briefly with the measures to be taken in dealing with this disease. In conclusion, I will give you briefly the procedure adopted in Hong-Kong in dealing with the outbreaks of this disease.

MEASURES ADOPTED IN HONG-KONG.

House-to-house visitation.—The disease is notifiable in Hong-Kong and has been so since 1895, but as this notification is universally evaded by the Chinese, immediately on the receipt of information that the disease has reappeared a house-to-house visitation of the infected districts is made. The sanitary authority has the power to institute such visits in any districts in which the disease may prevail. It must define the limits of such districts and this house-to-house visitation is effected by officers of the board assisted by the police. The removal of the sick and dead is conducted in ambulances provided for the purpose and kept at the hospitals and police-stations. The dead bodies are taken to the public mortuary and there they are examined by a medical officer; those who have died from plague are buried in the cemetery set apart for that purpose, the coffin being packed with chloride of lime or carbolised sawdust.

Segregation of contacts.—At the outset arrangements are made for the isolation of all those who have been in immediate contact with cases of the disease in the infected houses. It will be remembered that in the recent outbreak in Glasgow this measure was employed. When the daily number of cases increased greatly the continuance of this system was found to be impracticable, and the following method was adopted in Hong-Kong. Sheds were erected in various parts of the city to which occupants of the houses were taken whilst their clothing and effects were being disinfected, after which the persons were allowed to return to their own homes.

Isolation hospitals are provided. In my opinion these are better if made of wood—temporary structures which can be destroyed.

Disinfection of infected premises.—This consists in spraying the walls with a solution of corrosive sublimate (1 in 1000) or fumigating with free chlorine gas. The floors and furniture are then scrubbed with a solution of Jeyes fluid, and the walls are limewashed.

Latrines.—Special attention is paid to the disinfection of all public latrines by means of chloride of lime.

Sewers.—Extra flushings of the sewers are carried out by increasing the frequency of the discharges of the flushing tanks which are placed at the heads of all the main sewers.

Destructor.—The night soil at the isolation hospitals and all dressings of the patients are burnt in the hospital compound after having been mixed with sawdust.

Antitoxin.—A supply of Haffkine's antitoxic serum is kept and supplied free of cost.

Rats.—A reward is given for each rat brought to the sanitary authority; in this way 25,000 rats were collected and destroyed in 1900 from January to July.

Anyone acquainted with the conditions of overcrowding, filth, and ignorance that exist in China cannot fail to see that it will be years before plague can be stamped out of that country. To show the overcrowding that exists in some parts of Hong-Kong I may mention that in one health district in that city there are 975 people to the acre. In England, of course, these conditions do not exist, but still there are many localities where, if this bacillus obtained a footing, it would grow and spread. Therefore one must be on the look out in order that if the disease should be introduced it may, by active measures, be checked at the onset.

[Dr. Atkinson then showed lantern views of the plague bacillus and of the plague operations in Hong-Kong, of search parties, and of native plague hospitals, &c. Dr. Bulloch gave a short account of the plague bacillus and the dangers to be feared from inexpert tampering with buboes, and especially the danger arising from the pneumonic form.]

ENLARGEMENT OF BROCKWELL PARK.—For this praiseworthy scheme public companies and private donors have contributed £63 350 of the £66,700 required for the proposed addition of 43 acres to this park at Herne Hill and the necessary legal confirmation of the recent provisional contract for the purchase has been obtained. The acquisition of this additional land will provide for a greatly felt want.

A SUGGESTED METHOD OF PREVENTING WATER-BORNE ENTERIC FEVER AMONGST ARMIES IN THE FIELD.[1]

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EVERYONE is aware that our troops in the South African campaign have suffered very severely from enteric fever—notably in the Bloemfontein outbreak following Lord Roberts's march from Paardeberg. Numerous questions arise in connexion with this outbreak and with the very general prevalence of enteric fever during the campaign which we may hope to see answered when the whole conduct of the war has been under review. In the meantime these questions may be briefly summarised as follows:—1. Has the number of cases of enteric fever proportional to troops employed exceeded that characterising other campaigns in similar climates with similar disadvantageous sanitary surroundings? 2. Was the likelihood of enteric fever becoming epidemic amongst the troops foreseen by the military authorities? 3. Were the best practicable and available means taken to safeguard the army both in stationary camps and when on the march? The answers to these questions will be awaited with immense interest not only by the medical profession but by nearly every person of intelligence who has followed the various incidents of the war.

There can hardly be any doubt on the point as to whether the infection of enteric fever was introduced into South Africa by British troops or was conveyed to the latter from pre-existing sources in the country which was the seat of warlike operations. Enteric fever is endemic in South Africa and prevails in many parts of the country every summer season, whereas the troops leaving England, and probably those also from India and the British colonies, were subjected to medical inspection before embarkation and were no doubt very free from the disease on arrival at the Cape. It is evident, therefore, that the British Imperial forces must have become infected in South Africa by local conditions and did not carry the disease with them from their homes. Again, it seems highly probable from what is known of the mode of spread of enteric fever that the first cases amongst the troops arose from the consumption of water infected with the enteric virus, derived either from the civil population with whom the troops were brought into contact or more probably from the Boer combatants, amongst whom it is generally supposed the disease was present from their first taking the field. Once established amongst our own forces by means of infected water it is quite likely that the subsequent spread was largely due to personal infection from the necessarily prevailing conditions of camp and veldt life—that is to say, common latrines, uncovered and undisinfected excreta, flies carrying contagion from the excreta to the food, dust-storms depositing infective material on food and drink, absence of isolation of the sick, and the want of proper hospital appliances.

Inasmuch as troops on the march are always very careful to choose camping grounds which have not been previously in use unless strategical reasons render such a course necessary, whereas they are often dependent for their water-supply on sources which have been already defiled, either by the enemy or by advance columns of their own side, the assumption would appear to be warranted that if it were possible to render all water used in drinking by the troops innocuous there would be no general development of enteric fever on a large scale sufficient to cripple an army such as has been the case during the present campaign.

We await information as to what has been the practical experience with the South African army of the attempts made to sterilise water for the use of troops, either by boiling or by filtration. Even now, however, it is almost safe to assume that such methods can only have a practical application at stationary camps, and are impossible of

[1] A paper read before the Epidemiological Society on Jan. 18th, 1901.

attainment during the rapid marches and swift changes of position that war conducted on modern methods necessitates. The feature of the wars of the future will probably be, as the result of recent experience, the employment of highly mobile forces. Troops, both foot and mounted, will be expected to move with great rapidity and with very short intervals for rest; transport will be reduced to a minimum; and the filtration or boiling of water for troops on the march will be impracticable. We have not yet heard the full medical details of the march of Lord Roberts's army from the Modder to Bloemfontein, but it seems certain that the infantry outmarched both their regimental and brigade transport and were dependent for their drinking water upon the polluted streams or dams which they crossed and which in many instances had been already grossly fouled by the retreating enemy. Even if filters or boiling apparatus can be made to accompany a rapidly moving column it is very doubtful if men parched by long marches performed under a fiery sun and in clouds of dust can be restrained from slaking their thirst as soon as they arrive at water. It is more than can be expected from human nature under such circumstances to await the tedious delivery of the sterilising filter or the cooling of the water that has been heated to a boiling temperature. The agonies of thirst are intense and at the time far outweigh any such considerations as those of prospective illness from the consumption of a germ-tainted water.

Failing, therefore, the sterilisation of water by boiling or filtration, is there any substance which can be added to water which will destroy the virulence or inhibit the growth of the bacillus typhosus whilst not rendering the water unpalatable or injurious to the health of the consumer? It is evident that the ordinary poisonous, or even non-poisonous, disinfectants are inadmissible for this purpose, as if added to the water in quantity sufficient to exert a germicidal action they would undoubtedly prove harmful to the consumer, if not at first at any rate after repeated doses.

There are other substances, however, which might be expected to prove beneficial as regards their effect upon bacillus typhosus whilst not harmful to the consumer. Such are the dilute mineral acids—dilute sulphuric acid, B.P., and dilute nitro-hydrochloric acid, B.P.—and the organic acids, citric and tartaric, which are largely used in the manufacture of lemonade. Other substances with which we have experimented are acid bisulphate of soda, acid phosphate of soda, and sulpho-vinate of soda. All of these are bodies of which the human system is tolerant, whilst in the proportions which we have found to be required (after contact of from 15 to 30 minutes) to inhibit the growth and activity of bacillus typhosus they are quite palatable, imparting a sub-acid flavouring which is agreeable to the taste and would materially aid in quenching thirst.

As regards previous investigation of this subject, sulphuric acid has been shown by A. Stutzer to be fatal to cholera bacilli in 15 minutes when used in the proportion of 5 parts to 100,000 of water (0·05 per cent. solution). Hydrochloric and nitric acid are probably equally efficacious, but it does not appear that any sufficiently detailed experiments have been made on the destructibility of the organism of enteric fever. Dr. Christmas in 1892 showed that citric acid, although fatal to the cholera bacillus when used in the proportion of 8 parts in 10,000 parts, did not destroy the bacillus of typhoid fever in a less strength than 1 in 1000. Reinsch[2] states that 0·028 per cent. of tartaric acid in water "began to diminish the bacteria and 0·2 per cent. killed them." Tartaric acid has also been employed in filters and its use has recently been suggested in Italy for sterilising salads before consumption.

Schumberg's[3] bromine process for purifying water is specially advocated for army purposes, for sterilising water in the tropics, for use on ship-board, and in the case of waters derived from suspected or infected harbours. It consists in adding 0·06 grain of free bromine dissolved in potassium bromide solution for every litre of water. The excess of bromine is removed by adding an equivalent quantity of ammonia which renders the water palatable. Pfuhl states that the small quantity of bromide present is entirely devoid of the possibility of injury to health and that the taste can scarcely be distinguished from that of the water before treatment. In July, 1897, Braithwaite suggested the use of a mixture of bromide and bromate, added to the water in the form of a tabloid, to be followed by a tabloid of acid sulphate of soda or potash. A similar mixture is sold under the name of "bromidine." The quantity of bromine recommended was that obtained from two grains of bromide, or about one grain per quart, which gives only about one part in 17,500 of water. This quantity is much smaller than the authorities recommend for sterilisation. About one part in 2000 seems to be a safe quantity to use, or nine times the amount suggested above; and this would render the quantity of bromide finally formed and remaining in the water rather too high for dietetic use.

EXPERIMENT I.—*750 Cubic Centimetres of Tap Water Infected with One Drop of a 24 Hours' Broth Culture at 37° C. of Bacillus Typhosus (J. I).*

Agar plate cultures made with 1 cubic centimetre of mixture, and colonies counted after 48 hours' incubation at 37° C.	Results obtained after contact of infected water with acid solution for periods of—			
	5 mins.	15 mins.	45 mins.	24 hours.
Sodium bisulphate.				
1 gramme per pint of infected water.	Bacillus typhosus killed.	Sterile.	—	—
½ gramme per pint of infected water.	—	Marked reduction.	Bacillus typhosus killed.	—
¼ gramme per pint of infected water.	—	—	No reduction.	—
Tartaric acid.				
20 grains per pint of infected water.	—	Sterile.	—	—
10 grains per pint of infected water (A).	Marked reduction.	Three colonies.	—	—
10 grains per pint of infected water (B).	—	Bacillus typhosus killed.	Sterile.	—
5 grains per pint of infected water.	—	—	No reduction.	One colony.
Citric acid.				
20 grains per pint of infected water.	—	Sterile	—	—
10 grains per pint of infected water.	Slight reduction.	30 colonies.	—	—
5 grains per pint of infected water.	—	—	—	No reduction.
Nitro-hydrochloric acid, B.P. dilute.				
20 minims per pint of infected water.*	—	Sterile.	—	—
5 minims per pint of infected water.	—	—	—	No reduction.
Sulphuric acid, B.P. dilute.				
20 minims per pint of infected water.	—	Reduction.	Bacillus typhosus killed.	—
5 minims per pint of infected water.	—	—	—	No reduction.

* The acidity of this solution is equal to 4·2 cubic centimetres $N_{10}NaOH$ per litre and the corresponding H_2SO_4 solution 5·3.

The tabular statement of Experiment I. shows that the substances therein given, when used in sufficient strength and allowed to remain for a sufficient time in contact with the infected water, are capable of preventing any further growth of bacillus typhosus when some of the infected water is agar plated. In the case of tartaric, citric, and nitro-hydrochloric acids it does not appear that anything less than the maximum British Pharmacopœia dose per pint of water is efficient to sterilise if the contact is not to last longer than 15 minutes. Half the maximum dose (10 grains) per pint is inefficient in the case of citric and tartaric acids after 15 minutes' contact, whilst the minimum dose (five grains) per pint of citric acid has no effect after 24 hours' contact; and in the case of tartaric acid the minimum dose did not completely sterilise after the same period. Of the two tartaric acid appears to be the mos

[2] Centralblatt für Bakteriologie, 1891, vol. x., p. 415.
[3] Pfuhl: Zeitschrift für Hygiene, 1900, 53.

potent in its destructive action upon bacillus typhosus. The pint has been taken as a standard, as this is the quantity of water which a man might be expected to drink off at once. One gramme to the pint is equivalent to 1 in 568.

As regards the dilute acids, nitro-hydrochloric and sulphuric, the former appears to be more efficient than the latter; but no further experiments were made with them, as it was considered essential that the substance to be carried by individual soldiers in the field should be a solid, which could be made up into small tabloids, and not a liquid, which would have to be carried in a bottle and be measured out with some exactitude when required for the purpose of sterilising the water to be used for drinking.

Acid sodium bisulphate is not a British Pharmacopœia medicinal substance. It probably has no purgative effect, as the astringent properties of its free sulphuric acid would tend to counteract any laxative action of the sodium sulphate. The minimum purgative dose of sodium sulphate is a quarter of an ounce, and as we only suggest the use of 15½ grains of the bisulphate to every pint of water a man would have to drink seven pints of water before a quarter of an ounce of a salt, not known to be purgative, would be taken. Even if this quantity of water was drunk in a day there is no evidence that a quarter of an ounce of the bisulphate would exert any harmful effect. There is evidence from the table in Experiment I. that the bacillus typhosus is killed by only five minutes' contact with sodium bisulphate in the proportion of one gramme (15½ grains) per pint of infected water; but in our opinion it is better that contact should be made for fifteen minutes in order that sterility may be insured.

As regards acidity the same amount of acid, as measured by decinormal soda solution, appears to be required to produce a similar result in nitro-hydrochloric acid (dilute B.P.) and sulphuric acid (dilute B.P.), sodium bisulphate in the proportion of one gramme to the pint contains about two and a half times the acidity of 20 minims of sulphuric acid (dilute B.P.). If anything, the nitro-hydrochloric acid appears to be most efficient *qud* acidity; and this is intelligible when it is recollected that there is likely to be a small quantity of free chlorine in this acid, chlorine having very marked disinfectant properties. The citric and tartaric acids to be efficient must contain at least three times the amount of acid as measured by decinormal soda solution that is sufficient for nitro-hydrochloric and sulphuric acids.

Experimental trials were also made with acid sodium phosphate and with sodium sulphovinate, but they were found to be inefficient.

In order to show that the presence of one cubic centimetre of the acid solution in the agar does not affect the capacity for growth of the bacillus typhosus an experiment was made by adding some of the blank infected water directly to agar tubes containing one cubic centimetre of the acid solution. After 24 hours' incubation at 37° C. the plates showed very numerous colonies in every instance.

EXPERIMENT II.—*800 Cubic Centimetres of Boiled Tap Water Infected with Two Drops of a 24 Hours' Broth Culture of Bacillus Typhosus at 37° C.*

Agar plate cultures made with 0·2 cubic centimetre of the mixture.	Results obtained after contact of infected water with acid solution for periods of—	
	5 mins.	15 mins.
Sodium bisulphate, 1 gramme per pint of infected water ...	Six colonies.	Bacillus typhosus killed.
Tartaric acid, 1 gramme per pint of infected water	120 colonies.	50 colonies.

The tap water was boiled and then cooled before infecting in order to kill the few organisms present capable of growth at blood-heat in the agar and so facilitate the subsequent counting of the typhoid colonies.

Experiment II. is confirmatory of Experiment I., but the typhoid bacilli in this experiment were either more numerous or more resistant than in Experiment I., as the results are not quite so good. The water was infected with two pipette drops of the broth culture instead of with one; on the other hand, only one-fifth cubic centimetre was used for plating the agar instead of one cubic centimetre, as in Experiment I. The inferiority of tartaric acid to sodium bisulphate (equal strengths of each being used) is well shown in this table.

EXPERIMENT III.—*100 Cubic Centimetres of Boiled Tap Water Infected with One Cubic Centimetre (approximately 20 Drops) of a 24 Hours' Broth Culture of Bacillus Typhosus at 37° C. Sub-cultures made into Broth Tubes (Incubated for 48 Hours) by Three Platinum Wire Loopfuls after Contact of Infected Water with Acid Solution for Periods of—*

—	¼ mins.	15 mins.	30 mins.	45 mins.	60 mins.	2 hours.
Sodium bisulphate.						
1 gramme per pint of infected water ...	+	+	+	-	—	—
0·75 gramme ,, ,, ,,	—	—	+	+	+*	—
0·5 gramme ,, ,, ,,	—	—	—	+	+	+
Tartaric acid.						
1 gramme per pint of infected water ...	+	+	+	+	—	—
0·75 gramme ,, ,, ,,	—	—	+	+	+	—
0·5 gramme ,, ,, ,,	—	—	—	+	+	+
Sulphuric acid, dilute B.P.						
20 minims per pint of infected water ...	+	+	+	+	—	—
15 minims ,, ,, ,,	—	—	+	+	+	—
10 minims ,, ,, ,,	—	—	—	+	+	+

* Growth after 48 hours somewhat inhibited in the sub-culture.

Experiment III. shows that when a water is heavily infected with culture of bacillus typhosus (to the extent of 1 per cent.) the time of contact must be very materially increased to prevent subsequent growth of the bacillus in broth. Sodium bisulphate (one gramme per pint of infected water) is then only effective if contact has been made for 45 minutes. Tartaric and sulphuric acids in similar strengths did not prevent the subsequent growth of the bacillus after 45 minutes' contact.

EXPERIMENT IV.—*500 Cubic Centimetres of Boiled Tap Water Infected with One Drop of a 24 Hours' Broth Culture of Bacillus Typhosus. Four Different Cultures were used, marked respectively J 1, R, B, and M, thus making Four Infected Waters. The one marked J 1 was found to contain 9120 Colonies of Bacillus Typhosus per One Cubic Centimetre.*

Agar plate cultures made with one cubic centimetre of the mixture.	Results obtained after contact of infected water with acid solution for periods of—				
	3 mins.	7 mins.	10 mins.	15 mins.	30 mins.
Sodium bisulphate.					
1 gramme per pint of infected water, J 1...	Numerous, but greatly reduced.*	50	3	0	0
1 gramme per pint of infected water, R. ...	Very numerous.	200	24	0	0
1 gramme per pint of infected water, B. ...	Numerous.	140	14	0	0
1 gramme per pint of infected water, M....	Very numerous.	200	Plate spoilt.	0	0

* Greatly reduced when compared with the blank (control experiment.)

Experiment IV. was made to ascertain if any variation arose from the use of broth cultures of bacillus typhosus of different origins. The one marked J 1 was used in the preceding experiment. The others, marked R, B, and M, were kindly forwarded to us by Dr. W. G. Savage of Cardiff. The results, on the whole, show but comparatively little divergence, having regard to the fact that the waters were infected with four different cultures of varying degrees of remoteness from their original stocks.

It may be used as an argument against the deductions which we think that we are entitled to draw from our experiments that in broth cultures of bacillus typhosus the organisms are living under artificial conditions, and that waters infected by natural means derive the living virus directly from the fæces or urine of an enteric fever

patient. There would be reason in such a line of argument if it could be shown that the bacilli on emerging from the human body are more resistant to adverse agencies, such as our chemical solutions are, than those which have been cultured and sub-cultured in broth. That this is not generally held to be so is now recognised, for the probabilities are in favour of the view that pathogenic organisms by propagation in artificial media outside the human body tend to become saprophytic, and whilst very probably losing in virulence yet acquire higher resistant powers to agencies affecting their life and growth than they ever possessed when they flourished as parasites in the human body. The two properties of virulence and resistance to external destructive agencies must be clearly differentiated. We think there is every probability that the agency which proves fatal to the sub-cultured bacilli would have an equal, if not greater, effect upon organisms of high virulence immediately derived from the excreta of an enteric fever patient.

EXPERIMENT V.—*(1) 750 Cubic Centimetres of Boiled Tap Water Infected with Three Drops of a 24 Hours' Broth Culture of Bacillus Typhosus (approximately 0·2 of Broth Culture to 1000 of Water—1 Cubic Centimetre yielded 12,000 Colonies). (2) 500 Cubic Centimetres of Boiled Tap Water Infected with Five Drops of a 24 Hours' Broth Culture of Bacillus Typhosus (approximately 0·5 of Broth Culture to 1000 of Water). (3) 400 Cubic Centimetres of Boiled Tap Water Infected with Eight Drops of a 24 Hours' Broth Culture of Bacillus Typhosus (approximately 1·0 of Broth Culture to 1000 of Water—One Cubic Centimetre yielded 52,000 Colonies).*

Agar plate cultures made with 1 cubic centimetre of the mixture.	Results obtained after contact of infected waters (1, 2, 3), with acid solution for periods of—	
	15 mins.	22 mins.
Sodium bisulphate, 1 gramme per pint of infected water ...	Sterile.	—
Three 5-grain tabloids* per pint of infected water	100 cols.	2 cols.

* The tabloid took seven minutes to dissolve. It only contains 73 per cent. of the theoretical amount of acidity a five-grain tabloid of sodium bisulphate should contain, showing that about one-quarter of the tabloid is made with some inert substance. The experiment was made with No. 1 water only.

Experiment V. shows that sodium bisulphate in the proportion of one gramme per pint is effective after 15 minutes' contact, even for waters containing as many as 50,000 colonies of bacillus typhosus per one cubic centimetre. The tabloid of the same substance takes some minutes to dissolve; and as it contains some 27 per cent. of inert matter it is not surprising that the results obtained with it are less successful than those obtained with the pure chemical.

This experiment leads us to the consideration of the dose of the poison or the number of bacilli which must be imbibed in order to induce the disease—a subject on which practically nothing certain is known. On the one hand, waters which were believed on well-founded grounds to have been productive of outbreaks of enteric fever have been bacterioscopically examined—usually several weeks, however, after the period at which they were supposed to be infective—and no typhoid bacilli have been isolated; on the other hand, it is now known that in some 25 per cent. of all cases of enteric fever the urine during the later stages of the disease and during a prolonged convalescence may be teeming with bacillus typhosus, in some cases being actually turbid from the presence of many millions of these organisms per cubic centimetre. It will be easily understood how, if but a small quantity of such urine finds its way into drinking water, such water may become infected with bacilli exceeding in numbers per cubic centimetre any of those which have been artificially manufactured in the laboratory during the course of our research, although from Experiment III. it appears that sodium bisulphate has a considerable effect even when pollution to the extent of 1 per cent. has occurred.

It is reassuring, however, to know that it is only in about 5 per cent. of these cases of infective urine [4] that this liquid is rendered turbid by the presence of the bacilli, so that the condition is only actually present in about 1·25 per cent. of all cases of enteric fever. It is very doubtful also if the bowel excreta at any time contain bacilli at all comparable in numbers with those now known to be occasionally present in the urine of convalescing patients.

On the whole, it would appear as if we might be justified in assuming (1) that water naturally infected with the virus of the disease does not contain so very large a proportion of the bacillus; (2) that this organism is not by any means resistant to acids or other weak disinfectants; and (3) that the use of such simple means as here suggested by us for combating infection has possibly a future before it, more especially under conditions of life where the means of sterilisation by boiling and filtration are not readily available.

As regards the use of sodium bisulphate during a campaign we would recommend its being employed in the form of tabloids—each tabloid to contain five grains of the bisulphate. The tabloids should be made to dissolve quickly in water, and for this purpose the minimum quantity of gum arabic or other adhesive substance should be used in their manufacture. The tabloids should be put up in well-made light metallic boxes, to hold about a quarter of a pound weight—equivalent to about 350 tabloids—enough to sterilise over 100 pints of water at the rate of three per pint. One of these boxes should be carried by every soldier in his haversack. Supposing a soldier to consume five pints a day when on the march, the quarter of a pound tin would suffice for nearly three weeks, at the end of which time he will probably again be in touch with his transport. Instructions should be given by the medical officer to the rank and file as to the use of the tabloids, and more especially as to the desirability of allowing all contaminated water to remain in contact with the dissolved tabloids for at least 15 minutes before being consumed. The soldier of the future, it is now recognised, must have more intelligence and more individual initiative; and this should extend as much to the care of his health when in camp or on the march as to his action on the battlefield. The acid tabloids will be found to render the water much more effective in slaking thirst and there will in consequence be less inclination to drink large quantities of water, a smaller quantity when acidulated sufficing. The tabloids may also be used as thirst lozenges when water is scarce and will, we believe, be found to be useful by promoting the secretion of saliva and so preventing parching of the mouth. We are informed by an officer recently returned from the war that he found the "thirst lozenges" he took out with him from England most useful. There was an immense demand for them by the men of his company, and the men who took them were satisfied with much less water than those who failed to obtain any.

In a country such as South Africa, where the heat of the day is generally very great and water is scarce and often polluted, it seems very desirable that something should be done both to diminish the inevitable sufferings of our soldiers from thirst and to protect them from the ravages of water-borne disease.

[4] P. Horton-Smith: THE LANCET, May 20th, 1899, p. 1346.

NOTES ON ACQUIRED SYPHILIS OF THE NOSE AND PHARYNX.

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THE manifestations of syphilis are very frequently met with in the upper air-passages. If they are promptly recognised and suitably treated they may be classified amongst the curable ills to which mankind is liable. If, on the other hand, either through the patient's carelessness or through faulty diagnosis the disease is allowed to gain the upper hand there is hardly any limit to the amount of damage which may ensue. The following paper on the subject is based upon observations made chiefly at the Hospital for Diseases of the Throat, Golden-square.

In considering this subject I shall lay the most stress on such signs and symptoms as should lead to the prompt recognition of the trouble, for the diagnosis having been established the treatment is much the same in these cases as

it is in syphilis elsewhere. Primary and secondary lesions must be met by the internal administration of mercury in some form, and tertiary lesions must be treated with iodide of potassium. There is, however, one special feature in the treatment of tertiary syphilis of the throat and nose which must be borne in mind, and that is that very often iodide of potassium alone, even in very big doses, is inefficient, whilst the affection will readily yield to iodide of potassium and mercury combined. The best way of administering the mercury in these particular cases is by inunction. This should not be left to the patient, but poor folk should be admitted to the hospital and the well-to-do should obtain the services of a trained nurse. It is often surprising how rapidly improvement will result from this method even in cases where iodide of potassium has been taken for months without any benefit. As an example of this I may mention the case of a girl who came to the hospital with tertiary ulceration of the palate and vault of the pharynx. She was treated with iodide of potassium in doses ranging from 10 grains to 30 grains three times a day and iodoform was applied locally, but in spite of this the disease persisted and spread. The epiglottis was attacked and later the cords, and finally large gummatous deposits occurred below the cords giving rise to dangerous dyspnœa. I admitted the patient into the hospital with the intention of doing tracheotomy, but as she was under the constant supervision of the house surgeon I thought that I would first try the effect of mercurial inunctions. This was done and the necessity for tracheotomy disappeared. This case had been under treatment for about two years, during which time there had constantly been signs of active disease, occurring first in one place and then in another, and healing had never been perfect in any part; but directly mercurial inunction was adopted in addition to the internal administration of iodide of potassium the disease was kept under perfect control. The ulcers healed, the gummatous swellings below the cords disappeared, and the patient made an excellent recovery.

There is one other point to be remembered in the treatment of tertiary syphilis. When there is much stenosis of the larynx iodide of potassium must be given with great caution, for its first effect is often to cause rapid œdema of the laryngeal mucous membrane and so greatly to increase the obstruction. If, therefore, there is much obstruction to start with, iodide of potassium should only be given if the patient is within easy reach of help, for tracheotomy might become urgently necessary.

PRIMARY SYPHILIS IN THE NOSE.

Primary sore.—This is very rare, although there are several cases on record. Its seat is generally on the ala or just within the vestibule, though cases have been seen where the sore was on the mucous membrane of the meatus. The following case gives a picture of the trouble. A male, aged 50 years, came to the hospital with the complaint that the left nostril was blocked and that there was some blood-stained discharge. On examination the whole of the nose was found to be swollen and œdematous, and within the left ala of the nostril there was a thickened indurated swelling, of about the size of a bean, extending on to the mucous membrane and covered with brownish-red crusts. The tumour was very hard, but it was not very tender or painful. The rest of the respiratory tract was quite normal. There were, however, very marked and hard swelling of the left submaxillary gland and slight enlargement of the occipital glands. Mr. Spencer Watson reports a case which occurred in a nurse in which there was a well-marked tumour just within the nostril causing stenosis and accompanied by swelling of the submaxillary gland of the same side. These symptoms were followed in due course by secondary syphilis. The tumour was caused by picking the nose with an infected finger.

Thus a hard swelling about the ala or vestibules of the nostrils causing stenosis but comparatively little pain or inconvenience and accompanied by unilateral swelling of the submaxillary glands should arouse a suspicion that the trouble may be primary syphilis. The tumour has always a very hard base and bleeds easily. The disease with which this trouble is most likely to be confounded is sarcoma, especially if the chancre is on the true mucous membrane.

SECONDARY SYPHILIS OF THE NOSE.

The following manifestations of this disease are met with: (1) coryza; (2) mucous patches; (3) rhinitis erythematosa and rhinitis papulosa; and (4) superficial ulceration.

1. *Coryza.*—This is the earliest and commonest manifestation of secondary syphilis in the nose. It is, however, hardly distinguishable from an ordinary catarrh and is often overlooked. In syphilis the rhinitis is of a subacute type and lasts for a long time. The discharge is scanty and sometimes brownish in colour. The mucous membrane, especially that over the inferior turbinated body is dark and purple-coloured in appearance and looks dry. The coryza commences about the time of the appearance of the rash.

2. *Mucous patches.*—There is a great divergence of opinion as to the occurrence of mucous patches in the nose. I have never seen a case, though I have examined for them in cases where there has been a plentiful supply of them in the mouth and throat.

3 *Rhinitis erythematosa and rhinitis papulosa.*—These conditions are said to accompany the roseolar and papular eruptions of the skin respectively. They are undoubtedly seen round the nostrils and in the vestibules, but probably they never extend on to the true mucous membrane.

4. *Superficial ulceration.*—This is said to occur through the breaking down or erosion of mucous patches, and of necessity it must be extremely rare. Superficial ulceration when it does occur is generally an early tertiary symptom, and it will be described under that head.

From the foregoing remarks it may be gathered that secondary syphilis does not attack the nose in any very definite or serious way. The only symptom that one is likely to be called upon to treat is the coryza, which by producing stenosis of the nostril often causes distress and headache. If the coryza itself or any other accompanying symptom leads one to diagnose syphilis, mercury must be given internally, and such simple local remedies as would be employed for ordinary catarrh must be used.

TERTIARY SYPHILIS OF THE NOSE.

This may be met with in any of the following forms:—(1) gummata; (2) superficial ulceration; (3) deep ulceration and necrosis; or (4) scars, adhesions, and deformities.

1. *Gummata.*—In the nose these break down and ulcerate so quickly that they are seldom seen intact; yet it is most important to be able to recognise them, for appropriate treatment administered promptly may save the patient from all the distress of ulceration and necrosis which are sure to follow if the case is left untreated. The subjective symptoms of gummata are few. There may be some snuffling and slight pain, which is often of a deep boring nature and is worse at night, and there is more or less nasal obstruction. Such symptoms as exist are usually unilateral, at all events in the early stages of the trouble. The septum is the part by far the most commonly attacked, though the turbinated bodies, and especially the inferior turbinated body, may be the seat of the gumma. If the inferior turbinated body is attacked its appearance is very like that of ordinary turgescence; a gumma is, however, firmer and more resistant to probing, and it does not collapse on the application of cocaine. Occasionally the gumma is so small and situated so far back that it cannot be seen, and then the character of the pain and the history of syphilis must be relied on for arriving at a diagnosis. The septum may be attacked in one of two ways: either there is a circumscribed gumma, or the whole of it is infiltrated with gummatous material. The latter condition is by far the commoner. The circumscribed gumma is seen as a large prominent rounded mass projecting from the septum and often impinging on the inferior turbinated body, whilst in diffuse gummatous infiltration the septum is seen to be irregularly thickened and swollen. In some parts the swelling is so great as to block the nasal passages, whilst in other places it is a mere thickening of the mucous membrane. In both forms the mucous membrane is smooth and unbroken, but it may be paler than usual owing to its being stretched over the swelling. To the touch the gummata are hard or semi-elastic until they commence to break down, when they become gradually softer. In making a diagnosis spurs and deflections of the septum must, of course, be excluded, but this should not give any trouble upon careful examination of the nose. Then the circumscribed gumma, especially when softening has commenced, must not be mistaken for a chronic abscess. Here, again, the history of the case and a careful examination of the parts should render the diagnosis easy. The trouble, however, most likely to be confounded with gumma is sarcoma, but the latter is softer, it has a definite attachment which is generally high up on the septum, it becomes pedunculated and is then movable, it

bleeds readily on being touched, and there is usually a history of frequent epistaxis. The gumma is, moreover, essentially an infiltration, whereas the sarcoma is an outgrowth. If there is any doubt iodide of potassium should be given internally, and if this does not determine the diagnosis a piece should be punched out and a microscopic examination should be made.

2. *Superficial ulceration.*—This is not at all common, but it occasionally occurs from three to five years after infection. As before stated, it is thought by some to be a secondary symptom and to be due to the breaking down of mucous patches, but it is more probably due to the breaking down of superficial gummatous infiltration. This form of ulceration generally occurs on the septum, though the inferior turbinated body is occasionally affected. On examination the ulcer is found to be quite on the surface and rather depressed in the centre. It is covered with a thick, stringy mucus, and on wiping this away the ulcer itself is seen to be of a pinkish colour. It is not very painful or sensitive, but bleeds readily on probing. It shows no tendency to spread. The treatment consists in the administration of mercury and iodide of potassium internally, and locally a cleansing nasal wash should be used.

3. *Deep ulceration and necrosis.*—This is a fairly frequent result of syphilis. The periods of greatest danger are from one year to three years and from eight to fourteen years after infection, from three years to eight years being the period of greatest freedom. As deep ulceration is seldom seen without necrosis, the two conditions must be described together. Whether the gummatous deposit is originally in the submucosa or in the bone the result is the same in either case—viz., ulceration and necrosis. The septum is by far the commonest seat of the deposit, and, as before stated, the trouble is usually unilateral in the first instance. The process, however, tends towards the destruction of both cartilage and bone with such rapidity that perforation may occur and the opposite side may become involved at an early date. Just as a gumma of the nose is seldom seen in its typical form owing to the rapidity with which it breaks down, so in like manner the typical punched-out deep crateriform ulcer of tertiary syphilis is seldom seen, for masses of granulations spring up all round the ulcer with equal rapidity and again alter the appearance. This is the stage in which tertiary syphilis most frequently comes under observation, and on examination the septum is seen to be ulcerated, and around and bulging over the ulcer there is a mass of red granulations on probing, amongst which bare bone is easily reached. Similar processes may attack the turbinated bodies, and rarely may be confined to them, and the floor and the roof of the nose may also be involved. The discharge is at first purulent and blood-stained and contains shreds of necrotic tissue, but later it dries and forms large crusts which are extruded from the nostrils with great difficulty. These crusts undergo putrefaction and give rise to a most unpleasant odour, which is increased by their preventing the escape of necrosed bone. This smell is as bad as that arising from ozæna, though it differs from it in character. At first the patient is himself conscious of the smell and is greatly distressed thereby, but as the disease advances all sense of smell is abolished and the patient is unaware of the offensive odour of the nasal discharges. Sometimes the crusts are discharged by the patient, but more often they have to be removed by the surgeon, and in either case they tend to re-form. As a consequence of these processes the patient's general health is apt to suffer and he gets the appearance and symptoms of chronic septic poisoning. As the disease progresses the septum quickly becomes perforated and around the perforation red angry granulations spring up. These conditions may be hidden by the presence of black crusts, so that they may be overlooked unless looked for. Later still, especially in neglected cases, large fibrous polypi may develop, which are sometimes sessile and sometimes pedunculated. They may spring from either the septum or the turbinated bodies, and they develop *pari passu* with the destruction of the muco-periosteum covering these structures. They are devoid of epithelium, very red, and extremely hard and firm, and are consequently quite unlike ordinary polypi. The great characteristic, however, of tertiary syphilis in the nose is necrosis. It nearly always occurs in cases which are allowed to go on untreated and very often will occur even in spite of every form of treatment. Any or every structure within the nose may be partially or completely destroyed. As a rule the vomer is the first part to suffer, large portions of it separating and coming away. The cartilaginous septum and the nasal bones suffer next in order of frequency, then the floor of the nose, and lastly, the turbinated bodies, and with any of these the roof of the nose may be attacked. Necrosis of the floor naturally results in perforation of the hard palate, and necrosis of the roof may prove a most serious complication owing to secondary cerebral troubles.

4. *Scars, adhesions, and deformities.*—When healing is established the contents of the nasal fossæ may be altered almost beyond recognition. Adhesions, overgrowths, bridges, and abnormal cavities may all help to destroy the usual appearances of the interior of the nostrils. And as within the nostrils so without. The shape of the nostrils and the whole nose may be completely changed, the amount of distortion depending on the particular structures which have undergone destruction. On the other hand, it must be remembered that there may be great loss within without any sign of it exteriorly. For instance, nearly the whole vomer and even part of the cartilaginous septum as well may disappear without any alteration in the shape of the nose, and the same holds good when the turbinated or ethmoid bones are destroyed. Should, however, the vomer and the nasal bones both be destroyed marked deformity will result. This deformity is known as the "saddle-backed" nose. The upper part of the bridge as far as the nasal bones extend sinks into the face, leaving the anterior portion prominent and upturned. This is the commonest form of deformity in congenital syphilis, but it is not so often met with in the acquired disease. Another very common deformity is the depression of the anterior third of the nose. This is caused by the destruction of the whole of the cartilaginous septum and perhaps part of the bony septum. A third deformity is called the "bulldog" nose and is the result of the other two combined. The whole nose sinks bodily into the face, leaving just two upturned slits for nostrils. This deformity is the result of the destruction of the vomer, the cartilaginous septum, and the nasal bones all together. Lastly, the cartilaginous alæ may be destroyed, which may lead to various deformities from loss of substance, contractions, and adhesions, and even complete closure of one or both nostrils may occur. Such deformities are very commonly met with.

Complications.—Various complications may occur in the course of nasal syphilis, of which middle-ear troubles are, perhaps, the most important and most frequent. In the early stages the middle ear may be attacked with acute catarrhal otitis; during the necrotic stage purulent otitis is very common and is due to infection, and later still deafness from stenosis of the Eustachian tubes due to the formation of adhesions may occur. Again there are considerable risks of suppuration occurring in the accessory sinuses of the nose, the walls of which may be involved in the necrotic processes, so that when the disease has quieted down in the nose it may be necessary to treat the sinuses before complete relief can be obtained. Finally, pharyngitis and laryngitis sicca are of very common occurrence. Perforation of the hard palate and cerebral complications have already been mentioned.

Diagnosis.—The diagnosis of tertiary syphilis of the nose is fairly easy. In the earlier stages of the ulcerative process lupus and malignant disease are the troubles with which tertiary syphilis may be confounded and in the later stages when crusts have formed it may be mistaken for ozæna. The following are a few of the chief points which must be borne in mind in arriving at a diagnosis. In lupus the patient is generally younger than in acquired syphilis, the ulceration is very sluggish, and the ulcers are numerous, small, and superficial, and surrounded by fungus-like red or pale granulations. They are also more diffuse and occur as frequently on the turbinated bodies as on the septum. The overgrowth is in excess of the ulceration and there are often signs of lupus either on the face, on the exterior of the nose, or in the throat. The discharge is scanty; crusts, if they are present, are small and without any offensive odour; and there is but rarely any necrosis. Finally, lupus does not yield to iodide of potassium, and if any doubt remains a microscopic examination will greatly help the diagnosis. In malignant disease the patient is generally older, the growth is in excess of the ulceration, and the ulceration is on the surface of the growth. There are no crusts, bleeding is readily induced, and there is a history of frequent epistaxis. Pain is marked and the growth is very friable. Finally, here, again, iodide of potassium is of no avail, and a microscopic examination of a portion of the tumour will generally determine the

diagnosis. In ozæna (limiting the term to atrophic rhinitis) the odour is different and characteristic, there is no ulceration and no granulations or necrosis, and there is marked atrophy of the inferior turbinated bodies. After clearing away the crusts there is but little possibility of a mistake. It must be remembered, however, that it is possible to get true ozæna as a sequel to syphilis in cases in which there has been great destruction of the parts causing too great a patency of the nasal fossæ and in which the mucous membrane has undergone extensive alteration. The ozæna is the result of syphilis, but not part of the syphilitic process. In cases of perforation of the septum the question may arise as to whether it is due to syphilis or to rhinitis sicca. Generally speaking, if the perforation is large and involves the bony septum it is the result of syphilis, but if the perforation is small, more or less circular, and confined to the cartilaginous septum, it is generally due to rhinitis sicca, signs of which are usually seen in the nose. Small perforations may also be occasionally due to trauma.

Treatment.—The general treatment must be on the lines already suggested. Locally the nasal passages must be cleansed and cleared as soon as possible of all crusts and necrotic tissue, sequestra must be removed with forceps, and the granulations must be scraped away with a curette and the patient must afterwards keep the passages clean with an alkaline lotion. In obstinate cases after cleansing, heated calomel should be insufflated and the nose should be packed with double cyanide gauze. The gauze should be changed daily, about which there is no difficulty as the patient can easily be taught to do it for himself. Packing the nose has a marked effect in preventing the formation of crusts and in keeping the mucous membrane clean and moist.

SYPHILIS OF THE NASO-PHARYNX.

Primary and secondary syphilis of the naso-pharynx are very rare. The primary sore has been observed in this region, and is generally the result of careless instrumentation, especially with the Eustachian catheter. During the secondary period ulcerating papules and mucous patches may occur. They are usually discovered in patients seeking advice for the acute or sub-acute middle-ear catarrh which so often accompanies secondary syphilis.

Tertiary syphilis in this region is by no means rare, and though there are generally signs of the disease in the nose or pharynx as well, yet occasionally the naso-pharynx is the first place to be involved by tertiary syphilis, and may sometimes be alone affected. In such cases the symptoms are pain and aching at the back of the throat, deafness, tinnitus, and headaches, the presence of a discharge which is often blood-stained, and difficulty of breathing per nares. On examination there is seen either on the vault of the naso-pharynx or on the posterior surface of the velum a swelling with a sharply cut, deep ulcer in its centre. The shape of the ulcer varies and the size is anything from that of a threepenny-piece to that of a shilling. When the velum is attacked its whole substance is thickened, its anterior surface is much inflamed, and it is liable to become very quickly perforated.

The diagnosis is generally easy. The usual troubles may have to be excluded, but their differential diagnosis will have to be discussed when speaking of syphilis of the pharynx, so it need not be gone into here.

SYPHILIS OF THE PHARYNX.

The primary sore occurs in the pharynx fairly frequently and is generally located on one or other of the tonsils, the cryptic character of which lends itself to the retention and development of the poison. Seifert was able to collect 179 instances of chancre occurring in the pharynx. Of these 149 were on the tonsils and 30 were about the palate and arches. Infection seems to be generally conveyed through kissing or through the use of infected glasses, cups, tooth-brushes, pipes, &c. The symptoms may be thus tabulated:—1. Aggravated and prolonged sore-throat. 2. Painful deglutition, always referred to the affected side. 3. An indurated swelling of one tonsil. 4. A sluggish ulcer in the centre of the swelling, granular in appearance, covered with inspissated mucus, and of a greyish colour. 5. Early and unilateral swelling of the glands at the angle of the jaw, usually painless, though sometimes tender on pressure. 6. Sometimes marked febrile disturbance and headache. The diagnosis is difficult and often is not cleared up until the appearance of secondary symptoms, when the absence of a primary sore elsewhere will point to the case being one of tonsillar chancre. It may be mistaken for (1) mucous patch, (2) for epithelioma, or (3) for ulcerating gumma.

SECONDARY SYPHILIS OF THE PHARYNX.

The following manifestations of secondary syphilis are met with:—1. Erythema. 2. Mucous patches. 3 Superficial ulceration.

1. *Erythema.*—Erythema of the fauces occurs about the time of the appearance of the rash, though it sometimes precedes it. In appearance there is but little to distinguish it from ordinary sub-acute catarrh; the mucous membrane is, however, a little darker and more venous-looking than in ordinary inflammation, and there is a sharp line of demarcation between the affected and the healthy parts; the redness, too, does not extend forward on to the hard palate. Again, one often sees two crescentic patches of dusky redness, sharply defined, running up the anterior pillars and spreading over the velum, quite symmetrical, and meeting in the middle line at the junction of the hard and soft palates. This appearance is looked upon by many as almost pathognomonic of secondary syphilis, and certainly should lead to a most careful inquiry and investigation and to a sharp outlook being kept for any fresh development. Supposing these crescentic patches of dusky redness are accompanied by the slightest opalescence of the mucous membrane of the tonsils, even if only of their anterior edges or anywhere about the fauces, then the case may be diagnosed with certainty as syphilis and mercurial treatment should be commenced at once. It is not often, however, that one is called upon to diagnose syphilis from these appearances of the throat alone. The remains of a rash, or even of the primary sore, can almost always be found, and as a rule some enlargement of glands will be present which will remove all doubt. In syphilitic erythema of the pharynx there is more discomfort than real pain. Its course is protracted and it is sometimes ushered in by febrile disturbance, which renders the diagnosis doubly difficult.

2. *Mucous patches.*—The most usual time for the appearance of mucous patches of the pharynx is soon after the establishment of the rash, though they may precede the rash or appear quite late in the course of the disease. They may be seen on the tonsils, uvula, soft palate, or arches, and occasionally on the posterior wall of the pharynx. They appear as proliferations slightly raised from the surface and they vary in size from a split pea to a bean. They are covered with a bluish-white opal-coloured membrane, and are consequently called by some "opaline patches." They tend to run together and to become confluent, in which case a large area may be covered. In some cases in the earliest stages they are semi-translucent and present the appearance of a snail-track across the mucous membrane. Occasionally, again, cases are seen where the patches are much larger and resemble ordinary condylomata. Such patches present large flat elevations often standing up from the mucous membrane as much as one-eighth of an inch. They are in colour of a dirty yellowish-white and they have an uneven cauliflower-like surface. The whole of the tonsils and soft palate and even the roof of the mouth may be quite covered with them. Isolated mucous patches, seen perhaps most typically on the tonsils, are generally round and are surrounded by an areola of much inflamed mucous membrane. There are, as a rule, patches to be seen also on the buccal mucous membrane, the lips, or the tongue, as well as on the pharyngeal walls. They are very persistent and they show a great tendency to relapse; indeed, a fresh crop may appear quite late in the course of secondary syphilis. It is very important to remember that the discharge from a mucous patch is most virulently poisonous, more so than that of any other secondary manifestation, and almost as much so as that of the primary sore. Patients should be carefully warned of this fact and cautioned not to kiss others and to reserve glasses, cups, spoons, forks, pipes, &c., for their own use. I once treated a man for syphilis and before recovery he married, shortly after which I treated his wife for the same disease. Her mouth and pharynx were covered with mucous patches, and I suppose I was not explicit enough in my directions, for while she was still under treatment her sister came to me with a primary sore on the lip, which was followed by well-marked secondary syphilis. There is only one important subjective symptom of mucous patches—namely, dysphagia. This in aggravated cases is so distressing that the patient refuses food and consequently becomes ill and wasted. The diagnosis is as a rule quite easy when definite mucous patches have formed, but it is important to be able to

diagnose secondary syphilis of the pharynx in its early stages, for the sooner treatment is begun the better for the patient. The earliest sign of trouble is the appearance of small bluish white opalescent areas upon a congested mucous membrane. They are usually first seen on the anterior edge of one of the tonsils, possibly on the uvula or anterior arch, and if accompanied by the crescentic patches of erythema on the soft palate alluded to above secondary syphilis may be definitely diagnosed and treatment commenced. I lay very great stress on this opalescent appearance, for when once recognised it is an invaluable help to diagnosis, and I know of no other symptom more often overlooked than this is. Typical mucous patches seldom occur singly, but generally in groups, and very often such groups are absolutely symmetrical, which will at once suggest syphilis. Besides general treatment mucous patches should be treated locally. They may be readily induced to heal by the application of an aqueous solution of either bicyanide of mercury (10 grains to the ounce) or of chromic acid (30 grains to the ounce or more); but it is not enough just to paint it on, for if this is done the application never reaches even the surface of the mucous patch on account of the mucus covering it. Each patch must be treated separately, and before the drug is applied the surface must be thoroughly dried and freed from all secretion by means of blotting paper or absorbent cotton-wool. Two or three applications made in this way are generally sufficient. The great infectivity of the secretion must be borne in mind in carrying out this treatment. The hands should be carefully washed afterwards and the cotton-wool mops and blotting paper should be burned.

3. *Superficial ulceration.*—This is generally seen from one to three years after primary infection. It is often difficult to determine whether it should be classified as belonging to the secondary or to the tertiary period of syphilis, but pathologically it is probably due to the breaking down of a superficial infiltration of gummatous material, though the erosion of a mucous patch may also lead to ulceration. It occurs most frequently on the tonsils. In shape the superficial ulcer is round or oval, its area is limited, and its action is sluggish, and when once established it does not tend to spread either superficially or deeply. The symptoms are unimportant. There are some discomfort in the throat and some dysphagia. The diagnosis is generally easy. A superficial round or ovoid ulcer, limited in extent, sluggish in action, and not very painful, should suggest syphilis, and a general examination will usually reveal signs confirmatory of this diagnosis. Amongst the general signs I would draw attention to the almost invariable enlargement of the sub-occipital glands, and more especially to the swelling of the gland above the internal condyle of the elbow. Should this latter be found enlarged without any other obvious cause it is almost safe to form a diagnosis of syphilis. These glandular enlargements persist long after other signs of secondary syphilis have disappeared. The local treatment consists in the application of chromic acid in the same way as recommended for mucous patches.

TERTIARY SYPHILIS OF THE PHARYNX.

The following tertiary troubles are met with:—1. Gummata, (*a*) circumscribed and (*b*) diffuse. 2. Ulcerations. 3. Scars, contractions, and adhesions.

1. *Gummata.*—Just as in the nose so in the pharynx, it is very rare to see a definite gumma. Almost invariably the infiltration has commenced to break down and to ulcerate before the patient comes under observation. (*a*) Circumscribed gummata appear as swellings varying in size from a bean to a walnut and even larger. They are generally situated on the posterior wall of the pharynx or on the velum, often on its posterior surface, and sometimes on the tonsils. They are generally in the submucous tissue, though occasionally they infiltrate the mucous membrane itself. They are at first hard and somewhat ill-defined, but quickly become soft in the centre, as evidenced by the appearance of a soft yellow spot which rapidly passes on to ulceration. As a rule, gummata form, soften, and ulcerate with astonishing rapidity, though occasionally they assume a chronic form and remain as tumours for a very long period. Dr. Hunter McKenzie relates a case where there was an extensive gummatous swelling of the pharynx on its posterior wall which persisted for more than two months and was dissipated by iodide of potassium without ulcerating. Cheatle has shown a similar case before the Laryngological Society of London, and I have recently seen one at the Throat Hospital. The symptoms complained of are chiefly those which may be referred to mechanical difficulties of deglutition and phonation. There is a certain amount of aching pain, which is very often worse at night. The diagnosis is sometimes difficult, though the softening centre and the result of treatment soon clear it up. Occasionally, and especially when a tonsil is the seat of disease, there may be some difficulty in excluding malignant disease. (*b*) In diffuse gummata the posterior wall of the pharynx and the soft palate are attacked with about equal frequency. When the soft palate is attacked gummata are very commonly found, as already stated, on its posterior surface, and in consequence are often overlooked until perforation has occurred. Another variety of diffuse gummatous infiltration often attacks the lateral walls of the pharynx, causing large, red, painless swellings, generally on both sides, and very like ordinary hypertrophy, only that it is more pronounced and less painful. These swellings do not show the same tendency to soften and break down as do similar infiltrations elsewhere in the pharynx. They are very persistent, and when seen should always suggest the possibility of syphilis.

2. *Ulcerations.*—When the gummatous infiltration is in the mucous membrane proper the result of its breaking down is often a superficial serpiginous ulcer which is characteristic of early tertiary syphilis. Such ulcers are seen on the tonsils, soft palate, or anterior pillars. They are covered with dirty pus through which red granulations peep up. Sometimes there is seen, on the soft palate especially, a somewhat superficial form of ulceration, covering a large area, but taking a long time to destroy the deeper tissues and thus to cause perforation. Nevertheless, if untreated, it will in time destroy a great portion of the soft palate, though in doing so it pursues a very sluggish course. Deep crateriform ulcers are, however, the commonest form of tertiary syphilis in the pharynx. They are due, as before stated, to the breaking down of gummatous deposits. The soft palate is perhaps most commonly affected, but it attacks with almost equal frequency the posterior wall of the pharynx, whilst tertiary ulceration of the tonsils is by no means uncommon. The ulceration commences in the centre and quickly extends to the limit of the deposit. The occurrence of ulceration will greatly increase the discomfort complained of when the disease is still in the gummatous stage. The pain on deglutition becomes quite severe, and the presence of tenacious muco-pus, which is expectorated with great difficulty, is often very distressing to the patient. Directly the palate is perforated regurgitation of food and drink and alteration of the voice are complained of, and the patient's general health is apt to become much depreciated. As to diagnosis, a deep punched-out crateriform ulcer with a red areola and with its surface covered with greyish pus is characteristic of the trouble, and diagnosis should not be difficult. Occasionally the question may arise as to whether the ulceration is malignant, and sometimes, in the palate especially, the diagnosis may rest between lupus and syphilis. The single deep ulcer cannot well be mistaken for lupus, but in the more superficial type of ulceration mentioned above, which is very sluggish in its course, neither healing nor extending very rapidly, and taking a long time to cause perforation, it may be a matter of the greatest difficulty to determine whether the case is one of lupus or of syphilis. In lupus, however, the ulceration is very superficial and patchy and is surrounded by nodules characteristic of that disease. The affected area shows signs of healing in one place and of breaking down in another, and there is but little surrounding inflammation or pain, and finally, though scarring is extensive, adhesions are extremely rare. In superficial syphilitic ulceration, on the other hand, though the ulceration is not of the usual deep punched-out character, it is deeper than in lupus and there are no nodules and no attempt at healing. The ulceration is surrounded by an areola of inflamed mucous membrane, and as well as scarring there are generally adhesions.

3. *Scars, contractions, and adhesions.*—All tertiary syphilitic processes in the pharynx are followed by well-marked cicatrices when healing is established. These give the tonsils a hard lobulated appearance and the posterior wall of the pharynx a patchy or streaky look. The appearance of the soft palate varies with the extent of the disease. Sometimes the whole palate is a mass of cicatricial tissue, in which case its functions become impaired and both deglutition and articulation suffer. This is, of course, more marked when any great loss of substance has occurred. When there are large perforations

the voice assumes the cleft palate character and deglutition is, at first at any rate, very imperfect. Adhesions are a very common result of tertiary syphilis and are very important both from a diagnostic and surgical point of view. They may occur in many forms, of which the following are amongst the most common. 1. Adhesion of the posterior pillar of the fauces to the posterior pharyngeal wall, leading through cicatrisation to dragging of the uvula and palate over to the affected side. This causes practically no inconvenience as regards phonation and deglutition, but it may lead to deafness of the corresponding ear through dragging and pressure on the Eustachian tube and impairment of muscular action. 2. Unilateral adhesion of the palate to the posterior pharyngeal wall. This, again, does not cause much practical inconvenience, though it may lead to unilateral deafness in the same way as the above deformity. 3. Adhesion of almost the entire palate to the posterior pharyngeal wall. This is not at all uncommon and is sometimes the cause of much discomfort. It may result from deep ulceration of either the soft palate or the posterior wall, or both, but I think it is most common in connexion with disease of the palate. 4. Total atresia. This is fortunately very rare, though there are a good many cases on record. The opening left, however, is often so small that the consequences may be the same as if complete closure had occurred. Such cases are accompanied by mouth breathing, complete nasal stenosis, inability to cleanse the nostrils of their secretions, loss of taste and smell, liability to attacks of laryngitis and bronchitis, and deafness. This last complication is by far the most important, for it tends to be steadily progressive and is often accompanied by attacks of the most intense earache. 5. Adhesions between the posterior pharyngeal wall and the base of the tongue. This deformity is very rare, about 30 cases only having been recorded. When they do occur the opening is often so small that it is amazing how air, and more especially food, can find their way through. Surgical treatment in these cases is sometimes absolutely necessary in order to establish an opening sufficiently large to admit of the taking of nourishment. 6. Adhesion of the velum to the base of the tongue. This again is very rare, there being only one or two cases on record.

Treatment.—In all forms of tertiary syphilis of the pharynx the combination of iodide of potassium internally and mercurial inunction is especially useful and should be employed at the earliest possible opportunity. In tertiary ulceration a good deal may be done locally to arrest the disease and to promote healing. The surface of the ulcer should be carefully cleansed and insufflated with iodoform, or in some cases with heated calomel, either of which applications will be found most useful. In cases in which there is much pain the insufflation of orthoform will be attended with results most grateful to the patient. One insufflation will often relieve pain for as long as 24 hours, so that daily application will keep the patient quite comfortable. Both nitrate of silver and chromic acid are also useful applications. The best method of applying either of them is to fuse a little of the pure drug on to a probe, and having cleansed the surface of the ulcer to paint it on. Lastly, the patient may be given for use at home a gargle composed as under: chlorate of potash, 10 grains; lotio nigra, half an ounce; water to one ounce. This is most useful for the relief of pain and for cleansing the throat. As regards the treatment of adhesions I should say that the less the operative interference the better for the patient. Universal experience teaches us that while it is easy enough to make a larger opening it is almost impossible to maintain that opening, and that the last state of the patient is likely to be worse than the first owing to re-adhesions and contractions leaving a smaller opening than before. It is, therefore, never wise to resort to operation unless there are very strong reasons for trying to relieve the obstruction, such as rapidly increasing deafness, constant and intense earache, or great discomfort to the patient arising from the nasal stenosis. Should operation be considered absolutely necessary every conceivable device will have to be tried for maintaining a larger opening. Cleverly devised plastic operations, the insertion of plugs, tubes, lint, &c., have been resorted to with occasional success, but as a rule, however great the ingenuity displayed, disappointment is only too apt to result, and of this fact the patient should be warned beforehand. From observation on a great number of cases I should say that it is most surprising how great an amount of contraction may exist and yet cause comparatively little discomfort, and that therefore it is seldom necessary to exercise the ingenuity which such cases undoubtedly require, if they have to be treated surgically. When the opening is so small as to cause symptoms it is generally sufficient to pass dilating instruments regularly and in increasing sizes in order to render the patient quite comfortable, and this the patient can be easily taught to carry out for himself.

Harley-street, W.

REMOVAL OF A FOREIGN BODY FROM THE BRONCHUS BY INTRATHORACIC TRACHEOTOMY.

BY H. MILTON, M.R.C.S. ENG.

IN THE LANCET of March 27th, 1897 (p. 872), I described a successful case of anterior median thoracic incision for a tuberculous tumour of the anterior mediastinum. I have now to record a second case in which the same operation was performed for a foreign body in the right bronchus, this time, unfortunately, with a fatal result. The different issues in the two operations were due in all probability to the fact that asepsis could be carried out in the first case, whereas in the second sepsis already existed at the time and place of operation.

The patient was a Fellah, aged about 40 years, on whom tracheotomy had been performed some years previously for syphilitic stenosis of the larynx. A short time previous to his re-admission to hospital the tubular portion of the outer silver tube had become detached from the shield and had fallen into the trachea. On admission the patient seemed in no ways incommoded except for a slight fixed pain behind the sternum. No signs could be detected by external examination and the laryngoscope showed nothing beyond the stenosis of the larynx. A long silver probe passed through the tracheotomy wound into the trachea as far as its bifurcation gave at first no indication; eventually, however, after bending its tip to the right so as to facilitate its introduction into the right bronchus a loud metallic click was produced, audible to the bystanders. During the following days many attempts were made to seize and withdraw the foreign body with various shaped forceps, blunt hooks, coin-catchers, slings, and mounted sponges without success, the patient being frequently inverted. The patient was then left some days without further interference, but his temperature began to rise and he was affected with a constant cough, accompanied by purulent expectoration, which gradually became fœtid. Examination of the chest showed that air entered both lungs freely and that there were many moist râles and bronchitic sounds over the lower half of the right lung. The gravity of his condition was explained to the patient as well as the serious nature of the operation proposed; he, however, expressed his anxiety to risk anything to obtain relief. It was evident that the tube could only be removed through a tracheal incision and that this incision could be made in three positions, either in the neck, through the anterior or through the posterior mediastinum. The opening in the neck existed already and all efforts to remove the tube through it had been unsuccessful. Of the two mediastinal routes the posterior seemed to present more technical difficulties and to offer fewer chances of reaching the foreign body; it would at the same time afford better opportunities for drainage. It was decided ultimately to follow the anterior route. The patient was chloroformed through the tracheal opening, warmed chloroform vapour being blown into it through a glass nozzle. The skin over the thorax was thoroughly cleansed and at this moment an accident occurred which was regrettable, but which did not, I think, affect the result of the operation. The soapy water from the front of the chest was allowed to run on to the front of the trachea and a small quantity of it was sucked into the tracheotomy hole. The greater part of it was expelled by coughing and by partial inversion of the patient. The anæsthetic was then re-commenced and the operation proceeded with.

An incision was made from the tracheotomy wound to the

ensiform cartilage, the skin on each side was reflected outwards, and the sternum and trachea were exposed. The tissues were then separated with the knife from the notch of the sternum, and the point of the forefinger insinuated as far down as possible on the posterior surface of the bone, displacing backwards the trachea, innominate artery, and left innominate vein. The sternum was then sawn through in the middle line, the incision commencing at the notch, where the deep structures were carefully protected by the forefinger and being gradually carried down as far as the ensiform appendage. A chisel was inserted into the incision and rotated sufficiently to allow the introduction of two powerful retractors with which the two halves of the sternum were dragged apart. The chief opposition to the separation was caused by the ligamentous fibres at the back of the sternal notch, and after their careful division with the knife the two halves could be freely separated, the distance between them at the sternal notch being fully four centimetres. The trachea was now fully exposed to the point where it was crossed by the innominate vessels, but even after these were well retracted the bifurcation could not be seen. A hook was therefore introduced into the tracheotomy opening and the trachea drawn strongly upwards; this manœuvre combined with the retraction of the vessels allowed the bifurcation to be plainly seen. An incision about 2 centimetres long was then made into the anterior wall of the trachea at the lowest part exposed—i.e., just above the bifurcation—and a teaspoonful of evil-smelling frothy mucus escaped and was carefully mopped up. The lips of the incision were drawn apart and a strong light thrown into the trachea towards the right bronchus; the hoped-for metallic gleam did not, however, appear. The little finger was then introduced and its tip inserted into the right bronchus at once impinged on the lost tube which had become blackened and practically invisible. Guided by the finger small forceps were introduced but failed to get a firm hold, the difficulty being caused by the position of the upper edge of the tube which lay imbedded in the thickened bronchial wall. Eventually the tube was made to partially rotate and was then seized and extracted without difficulty.

So far the operation had been perfectly simple and unaccompanied by difficulty or hæmorrhage. There had been no interference apparent with the circulation and respiration of the patient, and its immediate object, the removal of the foreign body, had been successfully effected. The remaining steps of the operation, the closure and drainage of the wound, were less satisfactorily performed and might easily be improved on. Before criticising them, however, it will be better to follow the operation to its completion and to give the subsequent history of the case.

Having removed the tube an attempt was made to close the tracheal wound. Owing to the depth at which this had to be carried out, and especially to the extreme tenuity of the tracheal walls between the rigid cartilages, this suture was imperfect and had been much better omitted, as the stitches could not fail to become septic. A drain of dermatol gauze was laid along the anterior mediastinum reaching up the trachea half-way to the tracheotomy opening, the gaping of the two halves of the sternum allowing of the introduction of a considerable quantity of gauze, and the skin flaps were loosely approximated with sutures. The incision immediately below the tracheotomy wound was tightly sewn up and a tracheotomy tube inserted. A dressing was applied all over the front of the thorax and neck up to the tracheotomy wound and the patient was removed to bed. His condition an hour later was excellent, his pulse was under 100, and his breathing, though shallow, was regular and not hurried. He was fully conscious and free from shock. He passed a good night and slept quietly. The next morning his general condition was good, but his temperature had risen and there had been much secretion from the tracheal wound, which had dirtied his dressings. His breathing was somewhat increased in frequency and there were moist râles in both lungs without consolidation. It was thought advisable to change the dressings on account of the contamination which had taken place. It was found that the two halves of the sternum were closely approximated, kept apart only by the edge of the gauze plug, which was tightly nipped between them. The plug was removed with great difficulty and with much pain to the patient, and vent was given to a quantity of fœtid fluid collected round the lower tracheal opening. This fluid was sponged away, the skin flaps were approximated, and the thoracic walls were supported by stopping, several wicks of gauze being introduced from the root of the neck towards the lower tracheal opening. After the dressing the patient was fairly comfortable, but towards the evening he began to show signs of heart failure, the pulse and respiration becoming very rapid and his temperature falling. Stimulants were freely administered by the mouth and hypodermically and the patient passed a fair night. The following morning the temperature was about 102° F., but the pulse and respiration remained very rapid. The dressings were changed frequently and the secretion, which remained fœtid, was sponged away from the tracheal openings. Towards evening the symptoms of heart failure became more pronounced, and in spite of free stimulation he died during the night.

Necropsy.—A post-mortem examination made shortly after death showed an acutely septic condition of the anterior mediastinum and commencing pneumonia of both lungs. There was no lesion or affection of the pleura, pericardium, or great vessels of the chest. There were two ulcers in the right bronchus from the pressure of the tube, and extreme cicatrisation of the larynx from old syphilitic changes. The fatal result of the operation must, I think, be attributed to one of two causes—(1) acute septicæmia; and (2) interference with the functions of the thoracic organs due directly to the operative lesions. The evidence is, I think, largely in favour of the first supposition. All the elements necessary for its occurrence were present, suppuration pre-existed, the drainage and occlusion of the wound were imperfect, and the cellular tissue of extreme tenuity occupying the anterior mediastinum probably presented very little resistance to microbic invasion while affording a ready means of entry for the resulting toxins. To the other possible cause I shall refer later when considering the intrinsic dangers of the mediastinal operation.

Before quitting the particular case now reported it may be well to consider how its particular dangers might have been better averted. Had I to perform the operation again I should modify the procedure after the removal of the foreign body as follows. No attempt would be made to close the tracheal incision by suture, the difficulties of an effectual closure being, as already pointed out, very great. The greater part of the manubrium sterni would be removed subperiosteally, and through the large opening thus afforded a large gauze plug would be introduced down to the tracheal wound sufficiently firmly to occlude it. The two halves of the sternum would be firmly united below this opening by three or four strong silver sutures, leaving their ends projecting between the skin flaps sutured to the same extent. I would suture the skin from the tracheotomy wound down to the opening in the manubrium and occlude the whole of the sutured skin with collodion and gauze, thus rendering it very easy to maintain an effective dressing over the plug which might be changed every three or four hours.

Apart from the difficulties and dangers of any particular case it is necessary to make a careful analysis of the intrinsic dangers of anterior median thoracic section. They may be considered under four heads: hæmorrhage, shock, lesion to any vital function, and, lastly, sepsis. Of hæmorrhage there is practically no risk; no important vessel requires to be severed, and the great vessels lying below the sternum are quite easily protected. Shock has been completely absent in both my cases and there seems no reason to dread its occurrence. The vital functions which might be affected by the operation are two: circulation and respiration. In neither of my cases has the heart's action been appreciably affected and it is difficult to conceive of any wound or injury of heart or pericardium if due care be exercised. There are, however, in the immediate neighbourhood the cardiac plexuses, superficial and deep, through which pass the nerves controlling the heart's action. These plexuses lie in close relation with the arch of the aorta and are not likely to be cut or directly injured. The traumatism to which they are exposed produces no gross lesion comparable to section, and brain and spinal surgery have shown us that nervous tissues of the highest importance resist the gravest lesions short of destruction if sepsis be avoided. Cerebrum, cerebellum, and spinal cord have all proved their powers of resistance; the pneumogastric has been constantly exposed, pinched, drawn aside, and otherwise exposed to surgical insult with impunity; and the cervical sympathetic has been severed and its ganglia removed. The medulla oblongata is certainly still treated with the greatest respect, and it is, of course, possible that the thoracic plexuses so closely associated with it in the maintenance of circulation are equally sensitive to traumatism. This is a point which experience only can demonstrate, but I think it probable that

the slight traumatism to which they are of necessity exposed is not likely to affect them materially. The respiratory function can, on the other hand, hardly fail to be affected. The sternum is a very important element in the bony cage on whose movements respiration largely depends, but in neither of my cases has respiration been seriously interfered with. Ordinary respiration was perfectly well carried on by the diaphragm and it was only in spasmodic efforts such as coughing that any difficulty arose. So long as the lungs are unaffected the results of this operation on respiration need not be feared, but should pneumonia or severe bronchitis supervene the insufficiency of the expulsive efforts might gravely complicate the condition. An injury to the pleuræ at the time of operation is, of course, a possibility, but in my experience it has been very easily avoided, and did it occur it would at all events, if limited to one side, hardly produce any serious complication and the rent could be easily and at once repaired by sutures. To my mind the only real intrinsic danger of the operation is sepsis The mediastinum is occupied by very thin loose fibrous tissue, with imperfect blood-supply and probably very little vitality, affording, as before stated, very little resistance to microbic invasion and great facility for absorption. Moreover, the cardiac plexuses are very likely to be affected by septic inflammation occurring around them, much more so than by the traumatism to which they have been exposed.

Sepsis is, here as elsewhere, the great danger; every precaution must be taken to avoid its production and where it already exists to prevent its extension. The experience gained from the peritoneal cavity can help us but little here. The peritoneum is capable of dealing with a very considerable amount of septic matter, and its power of rapidly secreting large quantities of fluids makes drainage an easy matter either by tube or by gauze. In many cases of mediastinal operation it will, of course, be possible to insure asepsis and in such cases complete immediate closure of the thorax will be indicated. Where sepsis is unavoidable drainage will be necessary, and to my mind the sole difficulty of mediastinal operation lies in the provision of efficient drainage. Drainage may be attempted in three directions—forwards through the sternum, upwards to the neck, or backwards through the middle and posterior mediastina. Drainage through the sternum can only be efficiently provided through holes made for this purpose. The manubrium sterni might be removed almost entirely, the periosteum being left, or trephine holes be made when required, care being taken not to injure the internal mammary artery, which is well outside the sternal limits. Drainage holes having been provided the two halves of the sternum should be firmly reunited. Drainage through these openings might be afforded by gauze plugs or specially designed glass tubes. Drainage upwards to the neck might be sufficient in some cases, would be much simpler in its application, and would have the advantage that the sternal and skin flaps might be completely united over the gauze plug, leaving only a skin opening in the neck. Drainage backwards through the middle and posterior mediastina is quite practicable and not so difficult as it seems at first sight. On the cadaver I have found it possible to insinuate my finger from the anterior to the posterior mediastinum and passing along the right side of the vertebræ to reach the third and fourth dorsal rib without injury to vein, nerve, or pleura, and by the resection of the rib from behind between its angle and tuberosity to create a practicable drainage route. There is, of course, considerable risk of tearing the pleura; a tear, however, in this position would be unlikely to produce any very serious effect. On the whole, I consider anterior drainage through special holes made in the sternum to be the best method, but experience only can decide the question, and undoubtedly the method employed must vary with the nature of the intervention.

The operation is not one to be performed without very evident indication or without due consideration being given to all other possible methods of relief. Until its technique is much more thoroughly worked out the operation is one that is only justifiable when life itself is in danger, when there is a good chance of being able to remove the *causus morbi*, and where no less dangerous route or method is available. Undoubtedly the splitting of the sternum affords the most perfect approach to the anterior and middle mediastina; it remains to be seen whether this approach is not all too dangerous to be admissible except in the most desperate cases.

Cairo.

A SINGULAR CASE OF EXTENSIVE DEPOSIT OF PHOSPHATE OF LIME IN THE LUNGS.

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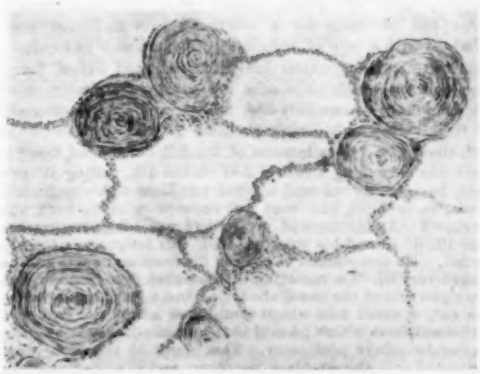
THE following case possesses some interest on account of its rarity. I have been unable to find any record of one that closely resembles it.

An unmarried woman, aged 32 years, was on June 10th, 1899, admitted into the Bristol Royal Infirmary under the care of Dr. Shingleton Smith for pneumonia and she died the same day. The following notes are abstracted from the report of the necropsy. The woman was well nourished and was of average height. Both lungs were universally adherent to the chest wall. The apices were pigmented and slightly scarred from the presence of local superficial tuberculous disease, but no fibroid or calcareous nodules were present in the thickened patches, and no old tuberculous nodules were present elsewhere over the pleuræ. The right lung was consolidated throughout. The left lung, though apparently free from recent consolidation, was abnormally resistant. Both lungs were cut with considerable difficulty and the cut surfaces presented a very unusual sensation to the touch. Everywhere they were extraordinarily gritty and small granules, in size and appearance like grains of sand, were left on the finger. Close inspection showed the substance of the lungs to be thickly studded from apex to base with these granules. In no part of either lung were they more numerous than in any other part. Both lungs were slightly pigmented and in some degree abnormally tough. The right lung was in a state of red hepatisation throughout and the lower lobe of the left lung showed some degree of commencing consolidation. The left lung may, however, be said to have been almost free from acute disease, and although almost free from consolidation the granules it contained caused it to readily sink in water. This lung weighed 45 ounces; the right lung weighed 57 ounces. In order to form a rough estimate of the amount of sand-like material in the lungs a cubic inch was cut out of one lung, and by tearing and repeated washing of this small portion most of the granules contained in it were removed. After being dried they weighed 98 grains. In drying they lost their sand-like appearance and became shrivelled and lustreless. The larynx, trachea, and bronchi were healthy. The mediastinal and bronchial glands were pigmented but presented nothing else noteworthy. The other organs showed nothing abnormal.

The following is a description of the granules and the result of analysis kindly made for me by a former pathological clerk, Dr. J. M. H. Munro: "The deposit consists of rounded transparent or translucent nodules which can be separated from the lung tissue by rasping it and washing the rasped material by elutriation or decantation with water. They are hard, fairly uniform in size, not affected by being kept in water for months, and only slightly affected by boiling-water. In a steam-oven they lose 8 per cent. of moisture but remain translucent. Under the microscope they appear to be built up of concentric laminæ, and the surfaces of many of them show markings corresponding in size and shape with the outline of pulmonary alveoli. The specific gravity is 2·325. On prolonged ignition they leave about 76 per cent. of ash which consists almost entirely of phosphate of lime. On treatment with dilute hydrochloric acid they give off a few bubbles of gas, showing the presence of a little carbonate, the phosphate of lime is dissolved out, and the concentric laminæ of organic matter become clearer in outline. The nodules answer the general tests for albuminoids and give 1·12 per cent. of nitrogen by Kjeldahl's process. Their general composition may be represented by moisture, 8 per cent.; albuminoid matter, 7 per cent.; phosphate of lime, 75·7 per cent.; non-nitrogenous organic matter, carbonates, and undetermined substances, 9·3 per cent."

Microscopical sections of decalcified portions of the left lung taken from areas apparently free from any of the lesions of acute pneumonia showed few abnormal changes. In places there was swelling with proliferation of the epithelium of the alveoli, but apart from the presence of the nodules there was

little evidence of chronic disease. The nodules generally lay in the walls of the alveoli which were of normal thickness, but here and there localised fibroid thickening was present in the immediate neighbourhood of a nodule. The outline of most of the nodules was a broad oval or slightly irregular circle. Lamination was very distinct and in most instances could be traced to the centre. Under as high a power as one-twelfth objective only in very few nodules could I trace any suggestion of a nucleus. In some a considerable portion



Calcareous granules in the lung.

in the centre appeared homogeneous, but comparison with other nodules showed gradations from this uniform appearance, through slightly marked lamination up to very definite lamination. The homogeneous aspect did not therefore appear to suggest a different origin for the central and peripheral portions of the nodules. In a few nodules small darkly-staining granules could be seen in the centre, but these were exceptional and in one or two instances at least appeared to be foreign bodies which had found their way into a central depression of the section of the nodule. The nodules stained blue with methyl aniline violet. There was no evidence that the nodules had arisen in the walls of the blood-vessels. The vessels were everywhere healthy and passed freely over the nodules without showing any connexion with them.

Inquiry into the patient's past history failed to throw any light upon the disease. She had for some years been a domestic servant and afterwards a shop assistant in a drapery establishment. Apparently her health had been moderately good. She had suffered from no serious illness, dyspnœa on exertion had not been marked, and apparently the exercise of the lungs occasioned by singing could not have caused discomfort since she was a member of a chapel choir. She had not been addicted to taking any medicine or medicinal food likely to contain phosphates.

Extensive calcification of other organs has occasionally been recorded. On mentioning this case to Dr. Rolleston he kindly drew my attention to the case of calcification of the liver recorded by Mr. Targett.[1] Another case of calcification of the liver has comparatively recently been recorded by Dr. Brill and Dr. Libman.[2] Both of these cases are, however, of somewhat different character from the above. In one the calcification occurred in large masses and in the other it was considered to have begun in the arteries. Cohnheim's Lectures on Pathology[3] contain a reference to extensive calcification of the lungs. Virchow is there quoted as saying that he has seen the lungs so infiltrated with deposits of lime salts that they felt like pumice-stone. A brief abstract of another case, recorded in *Le Mouvement Médicale*, is published in the *London Medical Record* (1879, p. 189). In this case the lungs contained 14 per cent. of lime and magnesium salts, but these salts were deposited as needle-shaped crystals, not in granules.

In this case calcification had obviously taken place in so-called amyloid bodies, and the presence of large quantities of phosphate of lime was secondary to the existence of amyloid bodies in the lungs in unusual numbers. The reason for the appearance of these bodies still seems to be in great measure a mystery. Dr. Ophüls in a recent article discusses their formation,[4] and considers them to be produced by the deposit of amyloid material around a nucleus of degenerating cells. Apparently bodies similar to amyloid bodies but of much larger size may arise by deposition of organic material around degenerating structures. I have met with a smooth ovoid mass in the mesentery of the size of a large pigeon's egg composed of layer upon layer of organic matter partially infiltrated with lime salts. In the centre of these layers was a hard, somewhat irregular, calcareous mass, without doubt a calcified lymphatic gland. Yet in the nodules from the lungs I could not detect a nucleus. If a nucleus of degenerating cells once existed it must have been small and have rapidly become absorbed at the time the first layers of amyloid material were being deposited. Although I can detect no nuclei in the nodules, that they were started by numerous localised centres of irritation seems to be as reasonable an hypothesis as any. The resemblance to acute miliary tuberculosis of the lungs is only superficial but it is in some degree suggestive. It is more easy to imagine the disease to have originated in general invasion of the lungs by some microbe of low virulence than to believe that the circumscribed morbid changes were produced by a toxin uniformly distributed through the pulmonary tissues by the blood.

In conclusion, I have to thank Dr. Shingleton Smith for permitting me to use this case and Dr. Munro for his careful analysis of the granules.

Clifton, Bristol.

[1] Transactions of the Pathological Society of London, vol. xl., p. 123.
[2] Journal of Experimental Medicine, September and November, 1899, p. 541.
[3] Vol. II., p. 642.
[4] Journal of Experimental Medicine, vol. v., No. 2, p. 111.

NOTES ON A CASE OF POISONING BY COAL TAR NAPHTHA.

BY G. HERBERT DOUTHWAITE, M.R.C.S. ENG., L.R.C.P., L.R.C.S. EDIN., &c.

CASES of fatal accident in which coal tar naphtha acts as the poisonous agent appear to be few and far between. The Registrar-General's report for England and Wales for 1886-95 in giving statistics regarding the relative frequency of the commoner poisons divides into the three groups—(1) poison used by suicides, (2) poison taken by accident and negligence, and (3) poisons used by murderers. Under none of these headings is there any record of naphtha poisoning. Then, again, the third edition (1896) of the "Nomenclature of Diseases drawn up by the Joint Committee appointed by the Royal College of Physicians of London" makes no mention whatever of this product. Neither is it referred to in such standard works as Brunton's "Pharmacology, Therapeutics, and Materia Medica," Hare's "Text-book of Practical Therapeutics" (1897), Taylor "On Poisons," Mann's "Forensic Medicine" (1898), &c. In the fifth and sixth editions of Guy and Ferrier's "Forensic Medicine," however, we have, in the chapter on "Inebriants," the following brief description given: "*Coal naphtha.*—This product of the distillation of coal-tar has proved fatal to a boy 12 years old. It was taken in the large dose of three ounces and death happened in less than three hours. The first symptoms were those of intoxication and furious delirium, soon followed by insensibility, stertorous breathing, and cold skin; then, after partial recovery following vomiting, fresh symptoms of collapse. Four days after death the body was pervaded by the odour of the poison."[1]

Considering, then, the comparative rarity of known cases of naphtha poisoning attended with fatal results, and acting upon the suggestion of the county coroner (Mr. J. Hyslop Bell), I venture to bring the following details of such a case under the notice of the readers of THE LANCET.

On Dec. 21st, 1900, a little girl, aged five years, was taken to bed by her mother as usual at 6 P.M. The mother at the same time carried upstairs a pint bottle filled with coal naphtha and placed it on the bedroom floor inside the door,

[1] THE LANCET, August 25rd, 1856, p. 230.

intending to put it away in a cupboard at a more convenient opportunity. She then went downstairs and with the help of a neighbour began to decorate the living-room for the approaching festive season. At eight o'clock, on her neighbour inquiring as to the whereabouts of certain illuminated texts and mottoes, she ran upstairs to her child's bedroom in order to get them out of a box in which they were kept. Her attention was at once drawn to the little girl who seemed to be breathing with extreme difficulty. Being alarmed at her condition she cried out that the child was dying. Her husband immediately ran off to procure medical assistance and came to me as the nearest practitioner. The only information that could be obtained from him concerning the nature of the case was that his daughter had gone to bed in her usual health and that now she appeared to be dying. I at once returned with the father to the house. In the meantime the neighbour, detecting the peculiar odour in the breath of the child, had drawn the mother's attention to the fact that the naphtha bottle was not now so full as before. When I arrived at the house I found my patient in an almost comatose condition, breathing rapidly and with great difficulty. There was a strong, heavy, benzine-like odour in the breath which issued from the mouth and nostrils. The face was dusky and somewhat livid and the hands were clammy and rather cold. The pupils were dilated and the conjunctiva was insensitive to the touch. The pulse was rapid and small. On carefully examining the bottle which contained what remained of the liquid I concluded that the child must have taken from between two to three ounces. After injecting a small quantity of brandy with a glass syringe into the rectum the patient seemed to revive a little and she vomited. A mixture of table-salt and warm water was then administered which caused her to vomit freely three or four times. The vomited matter smelt strongly of the poisonous liquid and consisted of partially digested food together with a quantity of frothy mucus from the air-passages. The lower extremities of the child being next immersed in a foot-bath of hot water into which a small quantity of mustard had been thrown I flicked the face with a towel dipped in cold water and also at regular intervals dashed cold water into her face. Artificial respiration was then performed and when the livid discolouration had diminished to some extent the body was inverted for a few minutes in the hope of exciting the respiratory centre in the medulla. External stimulants were also applied to the nostrils. The characteristic odour of the breath persisted for some time, which was possibly due in part to the fact that at the time of her imbibing the naphtha a certain quantity would doubtless have found its way through the glottis. The intensely laborious respiratory efforts, together with the presence of frothy mucus in the air-passages, may to some degree have been ascribed to the same cause. After the expiration of one and a half hours of continued and persistent application of restorative treatment the child regained consciousness and began to cry. A teaspoonful of brandy in sweetened hot water was then administered and I left the house, instructing the father to let me know about 11 P.M. how the patient progressed. Later in the evening I learnt from him that his daughter appeared to be going on all right and seemed somewhat inclined to sleep. On the 23rd, at about 8 P.M., both parents called at my house and informed me that they thought the child had "a touch of bronchitis." I gave them an expectorant mixture, recommended poulticing with linseed-meal and mustard, and promised to call early next morning. I examined the patient the following day and found her to be suffering from acute general inflammation of the air-passages. The mouth and throat were likewise slightly inflamed, and an eruption—resembling sordes—had now broken out on the lips. The bowels being constipated, a dose of two teaspoonfuls of castor oil was prescribed. The chest was regularly poulticed; demulcent drinks—such as milk and barley-water, &c.—were ordered, and brandy in teaspoonful doses every four hours was prescribed. The patient, however, gradually succumbed to the acute bronchitis, dying at 1.15 A.M. on Jan. 1st, 1901. An inquest followed in due course.

Coal naphtha may be readily distinguished from wood naphtha by the heavy benzine-like odour characteristic of the former. I ascertained that the child's father was employed at the corporation gas-works and was in the habit of using this product as a detergent for the purpose of removing tar from his hands.

Stockton-on-Tees.

A CASE OF ANTHRAX.

BY ARCHIBALD KIDD, M.R.C.S. ENG., L.R.C.P. LOND., D.P.H.

THE following are the brief notes of a case of anthrax which was recently under my care.

On the evening of July 4th, 1900, I was asked to visit a man who was said to have a large boil on his neck. The patient, aged 27 years, stated that he had been a little out of sorts for a week or two and had been troubled with a crop of boils on his neck which had quickly got well after the matter had been squeezed out of them. The boil for which he sought my advice was first noticed on June 30th, and on July 2nd he squeezed some matter out of it and went to his work as usual on that day and on the 3rd, though on the afternoon of the 3rd he noticed that his neck was becoming swollen, and on the 4th, feeling ill and cold, he kept his bed and applied poultices to his neck, and these, he thought, had been put on too hot as his neck was blistered. At the time of my visit (8 P.M.) his temperature was 103·4° F. and his pulse was 120. His tongue was thickly furred. He complained of pain in his neck and chest and he looked very ill. On removing the poultices there was seen on the right side of the neck, about one and a half inches below the ear, a small hole which would just admit the end of a probe and from which he said that he had squeezed out some matter two days previously. The edges of this hole were indurated and almost black in colour, and it was completely surrounded by a ring of vesicles of various sizes, the largest, which was probably formed by the confluence of smaller ones, measuring about half an inch long and being raised a quarter of an inch above the surface. The vesicles covered an area of about the size of a sixpenny-piece. The surrounding skin was of a purplish-red colour and the tissues of the neck were brawny and œdematous; the œdema extended over the right half of the chest as far as the nipple. The appearance was so striking that the probability of the case being anthrax suggested itself at once, and on inquiry I elicited the information that he worked in an office in connexion with the hide trade and was certainly exposed to the risk of becoming inoculated.

I advised an immediate operation, to which he readily consented, and I thereupon excised the area covered by the vesicles, scraped the subjacent tissues with a Volkmann's spoon, and applied pure phenol, making a circular wound about an inch in diameter. On the morning of July 5th the neck was rather more swollen and the œdema had extended and now involved both sides of the chest down to a line midway between the nipples and ensiform cartilage. His general condition, though on the whole satisfactory, was not quite so good as it was on the previous evening. On the 6th there was some improvement in the local condition. The wound in the neck was covered by a thick, black scab, and the œdema of the left side of the chest was beginning to subside; at the same time, however, the patient's general condition was distinctly worse. The temperature was 104°, the tongue was dry, brown, and tremulous, with sordes on the lips, and the pulse was 130. For the next three days his condition was very critical, the temperature ranging between 103° and 104°. The local condition, however, continued to improve, and on the evening of the 9th all œdema had gone from the left side of the neck and chest, leaving the right side still brawny and œdematous and making apparent immediately beneath the right clavicle a soft and boggy swelling with an indurated, irregular base, and on the same evening his general condition first showed signs of improvement. About a week later chloroform was administered and an incision was made into the swelling beneath the clavicle, and at the same time the scab on the neck, which was beginning to separate, was removed. His subsequent progress was uneventful, and when I last saw him in September, on his return from the seaside, the wound in the neck had healed, though that on the chest had not quite closed; otherwise he was in very good health.

The case was an extremely interesting one and for some days I had very little hope of the patient's recovery. I am inclined to think that the swelling which formed beneath the clavicle was largely gummatous in nature. It was for that reason that I delayed opening it as long as possible, and it was more the hope of relieving the pain than the

expectation of finding pus that finally decided me to do so. The result, however, was not altogether satisfactory, as though the pain was relieved only a few drops of pus were evacuated, the swelling consisting almost entirely of soft and sloughy tissue which took a long time to separate and so allow the wound to heal.

I very much regret that I was unable to confirm the diagnosis by bacteriological examination, but I think that the typical appearance of the lesion, coupled with the obvious sources of infection to which the patient was exposed, leave very little room for doubt as to the true nature of the disease. It is probable that the man became inoculated on July 2nd, when he went to work with an exposed open wound. Though the constitutional disturbance in this case appears to have been considerably greater than in either of the cases reported by Mr. E. C. Bousfield[1] and Mr. E. A. Clarke[2] the precisely similar treatment which I adopted was followed by an equally successful result as in those cases.

Ilford.

SPLENO-MEDULLARY LEUKÆMIA: REMARKABLE TOLERANCE OF ARSENIC.

BY CHARLES HEATON, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

THE notes of the following case of spleno-medullary leukæmia will be of interest at the present time in showing the remarkable way in which arsenic is tolerated by some patients. The patient came under my care in July, 1899, with the disease in an advanced condition, the blood showing typical features and the proportion of red corpuscles to leucocytes being 12 to one. He was taking liquor arsenicalis in small doses (from two to three minims) twice a day, but even this caused gastric irritation and abdominal discomfort, and had to be omitted. In consultation with Dr. H. D. Rolleston hypodermic injections were advised, beginning with $\frac{1}{10}$th of a grain of arsenious acid (this was later changed to arseniate of soda). The following were the amounts injected.

Date.	Duration of treatment.	Amount of drug administered.	Duration of intervals.
1899.			
Sept. 29th to Nov. 19th.	51 days.	4 grains arsenious acid.	—
Interval, Nov. 19th to Dec. 5th.	—	—	16 days.
Dec. 5th to Dec. 12th.	7 days.	1¼ grains arsenious acid.	—
Interval, Dec. 12th to Dec. 18th.	—	—	6 days.
Dec. 18th to Jan. 2nd.	15 days.	7½ grains arseniate of soda.	—
1900.			
Interval, Jan. 2nd to Jan. 8th.	—	—	6 days.
Jan. 8th to Feb. 12th.	35 days.	28 grains arseniate of soda.	—
Interval, Feb. 12th to March 5th.	—	—	22 days.
March 5th to March 13th.	8 days.	½ grain arseniate of soda.	—
Interval, March 13th to March 21st.	—	—	8 days.
March 21st to May 1st.	41 days.	34 grains arseniate of soda and 2 grains of sodium cacodylate.	—
May 1st to May 16th.	15 days.	8½ grains sodium cacodylate and 9 grains of sodium cacodylate by mouth.	—
May 16th to June 26th.	41 days.	35 grains arseniate of soda and 1½ grains of sodium cacodylate by mouth.	—

The total number of days was 271, including intervals amounting to 58 days, and the total amount of hypodermic administration was as follows: arsenious acid 5½ grains, arseniate of soda 105 grains, and sodium cacodylate 10½ grains. In addition, 10½ grains of sodium cacodylate were administered orally. The maximum dose administered at one time was 2½ grains of arseniate of soda, equivalent to 4 drachms 26 minims of liquor sodæ arseniatis.

The progress of the case was very carefully watched and the patient was seen in consultation by Professor W. Osler. Weekly counts of the blood were made by myself and the urine was tested for arsenic. At no time were there any objective symptoms of poisoning, no pigmentation of the skin, no evidence of neuritis, no irritation of the conjunctivæ, the subjective symptoms being restlessness and feeling of "pins and needles" in the legs, this being the indication for an interval. Mucous diarrhœa occurred latterly, but as this is a frequent concomitant of leukæmia it was probably unconnected with the treatment. The patient had suffered before the commencement of the treatment from slight eczema at the flexures of the joints and a mild but worrying herpetiform eruption of the prepuce. Both these conditions continued unaltered during the administration. The influence of the treatment was for a time apparent in the blood, as shown by the differential count, the average number of red corpuscles keeping steadily about 3,000,000 per cubic millimetre. The arsenic was rapidly eliminated in the urine, Marsh's test showing large quantities for the next 24 hours after injection and then in rapidly diminishing amounts for several days afterwards, but for exactly how long I am not able to say precisely.

The solution used for the hypodermic injections was a 1 in 500 solution of eucaine hydrochloride B, 15 minims of which contained in solution one grain of arseniate of soda. The injections were made with a very fine needle and one of Down's "all metal" syringes, holding 20 minims; with this one is able to warm the fluid to blood heat by holding the syringe over a spirit flame. If the fluid is injected cold much local irritation ensues. The solution was filtered and boiled frequently and appeared to undergo some chemical change if kept for more than a week, when it caused a little irritation and was prone to grow a mould if contaminated. With the above precautions no local trouble at the seat of injection ensued.

I found that cacodylate of soda when hypodermically administered was followed by no apparent result of any kind, but that administration by the mouth was always succeeded by a complaint of a taste of garlic and of gastric disturbance.

Westgate-on-Sea.

[1] THE LANCET, Oct. 20th, 1900, p. 1133.
[2] THE LANCET, Nov. 10th, 1900, p. 1346.

RESULTS OF 35 PROPHYLACTIC INJECTIONS OF THE ANTI-DIPHTHERITIC SERUM.

BY PERCY R. BLAKE, M.R.C.S. ENG., L.R.C.P. LOND.,
LATE HOUSE SURGEON TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

RECENTLY, at the Suntrap Convalescent Children's Home, High Beech, Essex, three consecutive cases of faucial diphtheria occurred. At the time there were 38 children in the home, so after the third case developed it was deemed advisable to try the effect of prophylactic doses of antitoxin. I think the result obtained may prove interesting. I may say that the three infected children were removed immediately the diagnosis was made to the sanatorium, situated about 50 yards distant from the home. Accordingly I started the injections on Dec. 5th, 1900, when I injected 15 of the children, finishing the remaining 20 the next day, Dec. 6th. The serum used was that obtained from the Jenner Institute of Preventive Medicine, and the injection was of the quantity and strength of one cubic centimetre containing about 334 units, the prophylactic dose prescribed on the bottles. In every case the strictest antiseptic precautions were observed and the skin of the flank was the site of injection. The following were the results obtained: in no case did any local lesion follow at the site of injection; no other case of diphtheria ensued; and in 31 cases no reaction followed. The following are the notes of the remaining four cases.

CASE 1.—The patient was a boy, aged five years, suffering from rickets and chronic tuberculous peritonitis. He was injected on Dec. 5th. On Dec. 9th the sterno-mastoid glands on the right side of the neck became slightly

enlarged, hot, and tender; there was no faucial lesion and the temperature was 101° F. On Dec. 10th the temperature was 98·5°, the glandular swelling, tenderness, and heat having subsided.

CASE 2.—The patient was a boy, aged six years, suffering from early spinal caries without abscess formation. He was injected on Dec. 5th. On the night of Dec. 10th and again on the night of the 11th he complained of pain in the left knee. The joint was a little warm but there was no apparent swelling or stiffness. His temperature was never above 99° F., and after the night of the 11th he complained of no more pain.

CASE 3.—The patient was a girl, aged five years, suffering from tuberculous hip disease with ankylosis of the joint. She was injected on Dec. 6th. On Dec. 9th she developed a scarlatiniform eruption all over the trunk, arms, legs, and face. Her temperature was 100° F. The child did not complain of feeling ill and the rash was evidently unirritating. On Dec. 10th the rash was only apparent on the thighs and abdomen. Her temperature was 99·6°. On Dec. 11th the rash had quite gone. Her temperature was 98·5°.

CASE 4.—The patient was a boy, aged five years, suffering from early tuberculous hip disease. He was injected on Dec. 6th. On Dec. 14th he developed a papulomacular eruption on the abdomen, chest, and arms. His temperature was 98·6° F. I had no further opportunity of watching his progress.

The results obtained from these prophylactic injections are certainly encouraging. The three infected children undoubtedly contracted the disease from one another, but after the injections no further cases developed. The occurrence of antitoxin phenomena after quite small doses of antitoxin is also interesting to note.

Waltham Abbey, Essex.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ELTHAM COTTAGE HOSPITAL.

A CASE OF PERFORATION OF THE STOMACH DUE TO GASTRIC ULCER; OPERATION, RESULTING IN RECOVERY.

(Under the care of Dr. J. D. RICE.)

THERE are three varieties of perforation in gastric ulcer. In the ordinary form an opening exists which is large enough to permit extensive extravasation of the stomach contents so that a general virulent peritonitis is rapidly set up. In a second form the extension of inflammation from the ulcer leads to the formation of numerous adhesions, limiting the extravasation which occurs subsequently, so that the peritonitis induced is confined to a small area, and a localised abscess results. In the third variety the perforation is minute, so that, although a general peritonitis is set up, it is not necessarily virulent in character, and the opening itself is soon closed by the effusion of plastic lymph. To this class the following case probably belongs. The virulence of a peritonitis varies greatly and is dependent on the form of micro-organism present. In all cases of peritonitis a bacteriological examination of the exudation is desirable.

On July 7th, 1900, Dr. J. D. Rice was asked to see a girl, a domestic servant, who had arrived from a distance in a vehicle and was said to be dying. He found she had such acute pain in the abdomen that she dared not cry out on account of the agony which it caused. Her temperature was 103° F., the pulse was 130, and the respirations were 24. Her history was as follows. For some time she had had pains in her stomach, with vomiting, accompanied by great pain, which always occurred after taking food. The ingestion of fluids alleviated the pain provided sickness was not caused. The vomited material she described as tasting sour; it occasionally contained blood, but never in great quantity; her bowels were irregular. On the morning of July 6th she went to a medical man who gave her some medicine and some advice about her food. At 7 P.M. the same day she had an attack of sickness, during which she felt "something give way with a snap in her inside." The pain caused was so severe that she fell on the kitchen floor and lay there moaning until she was discovered after some time. As she believed herself to be dying the medical man whom she had seen that morning was sent for; he ordered her to bed and advised that her relatives be communicated with. They sent her to see Dr. Rice on the morning of July 7th.

On examination the abdomen was found to be distended, rigid, and immobile; it was painful to pressure on the epigastrium but not elsewhere. The liver dulness was absent. The patient refused to inspire deeply on account of the pain. Recognising the probability of a perforating gastric ulcer Dr. Rice suggested to her relatives that she should enter the hospital in order to undergo an operation as her home was by no means antiseptic. After two hours' deliberation they consented and she was removed to the Eltham Cottage Hospital at 8.30 P.M. Her temperature before removal was 104° and on arrival it was 102°. She was then rather collapsed and verging on the unconscious.

Mr. A. S. St. John and Mr. H. Sandford Smith saw the girl in consultation with Dr. Rice and confirmed his diagnosis, and he therefore decided to operate at once. Mr. St. John gave the A.C.E. mixture and Dr. Rice opened the abdomen in the middle line by an incision six inches in length. All bleeding points were secured by forceps. On opening the peritoneum in the usual way Dr. Rice thought that free gas escaped, though Mr. Smith was not of the same opinion. The stomach presented in the wound. Hot antiseptic sponges were placed round it and there was an escape of fluid which only differed from normal peritonitic fluid in containing some white flocculent particles. Contrary to expectations, on examining the stomach inch by inch no perforation was found, but a portion of its anterior surface was fixed by very fragile adhesions of lymph to the abdominal peritoneum. These adhesions, Dr. Rice believed, occluded the perforation, and as the patient was then breathing badly it was necessary to finish the operation rapidly. Hot saline solution was injected into the sub-mammary tissue and a hypodermic injection of ether and strychnine was given. The abdominal viscera were flushed with a solution of mercuric iodide and were sponged as dry as possible. The peritoneum was closed with interrupted silk sutures. The portion near the adherent stomach being partially digested gave way if any strain were put on the sutures. The abdominal wall was closed by strong silk passing through all its layers. No drain was used. The wound was dressed with iodoform gauze.

At 1 A.M. on the following morning the patient had recovered from the shock of the operation. The temperature had fallen to 100°, the pulse was 110, and the respirations were 20. The patient had an uninterrupted convalescence; on only one occasion did her temperature rise above 100°. She was nourished by nutrient enemata for six days and the wound was dressed on the sixth day. It healed by first intention. After four weeks she was discharged cured and went to a convalescent home. On Oct. 29th she was in perfect health and had no digestive troubles.

Remarks by Dr. RICE.—The points of interest in this case are that adhesions formed in about 27 hours of sufficient strength to occlude the perforation, and that operative interference in an apparently moribund patient prevented a general peritonitis which would doubtless have proved fatal.

ROYAL BERKSHIRE HOSPITAL, READING.

A CASE OF JEJUNAL INTUSSUSCEPTION; MULTIPLE GROWTHS IN THE JEJUNUM AND DUODENUM; LAPAROTOMY; DEATH; NECROPSY.

(Under the care of Dr. W. J. MAURICE.)

THE occurrence of intussusception in an adult is very rare, and it is in the majority of the cases associated with the presence of a new growth. Usually the new growth is at the apex of the intussusception, but sometimes it is found above the invagination,[1] and in these cases it may give rise

[1] THE LANCET, May 7th, 1892, p. 1022.

to the intussusception either by causing obstruction of the intestine or by interfering with the progress of peristalsis. For the notes of the case we are indebted to Mr. Arthur Stanley Green, late house surgeon.

A woman, aged 23 years, was on Feb. 10th, 1900, admitted into the Royal Berkshire Hospital under the care of Dr. W. J. Maurice. For a lengthened period the patient had been suffering from anæmia, vomiting after food, and vague pains in the region of the stomach. At 7 A.M. on Feb. 10th she was awakened by a pain in the epigastric region which was so severe that on attempting to stand she immediately fainted. She was seen very soon afterwards by Dr. J. A. P. Price, who gave her a small dose of morphia. At 12 noon Dr. Maurice saw the patient in consultation with him and it was decided to remove her to the hospital and to operate if her condition did not improve. On admission at 3.15 P.M. the pulse was rapid and small, the respirations were costal, and the abdominal wall was so rigid that nothing could be determined by palpation. The patient stated that her bowels had been opened on the previous evening.

The operation was commenced at 4 P.M. A median incision from the ensiform cartilage to the umbilicus (this was afterwards enlarged) revealed a purple-coloured tumour extending from just below the margin of the right lobe of the liver obliquely across the spinal column to the left sacro-iliac articulation; this proved to be a large intussusception of the jejunum. Very little difficulty was experienced in reducing the invaginated gut, which, although very dark purple in colour, immediately commenced to improve under warm sponges wrung out of saline solution. While returning the gut a small polypoid growth of about the size of a walnut was felt in the lumen of the bowel just above the intussusception; this was excised and the aperture was closed with two rows of silk sutures. The abdominal incision was sutured in three layers. The patient stood the operation well.

On Feb. 11th the patient had passed a comfortable night and was free from pain, but her pulse varied between 130 and 160 and she complained very much of thirst. On the 12th she said that she felt much better. She was quite comfortable during the day, but at 10.15 P.M. she had a severe pain in the left iliac region which she described as being exactly like her previous seizure. The abdomen was distended, tympanitic in front and dull in the flanks; the pulse was very rapid and small. As it was thought probable that either the intussusception had recurred or that leakage had taken place from the line of sutures in the bowel the patient was taken to the theatre and the abdomen was again opened. A considerable quantity of fluid escaped; the portion of intestine which had been invaginated was red and œdematous and the gut above was very much distended. There was no diffused peritonitis and the line of suture in the intestine (where the polypus was removed) was quite sound and had not leaked. The peritoneal cavity was flushed with sterilised water and the abdominal wound was closed. The patient died at 3 30 A.M.

Necropsy.—At the post-mortem examination it was found that the portion of intestine which had been invaginated was quite black and very much swollen; it was the upper portion of the jejunum 34 inches from the pylorus and was 14 inches in length. Ten polypi were found in the lumen of the bowel; the lowest was just above the intussusception and the uppermost was just below the pyloric opening. These polypi were all attached by thin pedicles to the valvulæ conniventes of the intestine, the point of attachment in the majority being nearly opposite the mesentery. They varied in size from that of a millet seed to that of a small walnut, the larger being lobulated; the surface of the small growths was quite smooth. Histologically they proved to be papillary adenomata.

Remarks by Mr. GREEN.—The principal features of interest in the above case are as follows:—1. The age and sex of the patient. The late Dr. Hilton Fagge[1] says: "In adults, however, it (i.e., intussusception) is infinitely more rare than might be supposed from the comparatively numerous cases that Hutchinson, Peacock, and others have collected from different medical works. Dr. Wilks used to say that he had only seen one case in a grown-up person." Intussusception is more common in males at all ages than in the female, the proportion being about two and a third to one (Dr. R. D. Brinton[2]). 2. The position of the invagination. Although enteric intussusception is much more common in adults than in young children the most frequent seats are the upper and lower portions of the ileum, only 4 per cent. being jejunal. Dr. Hale White[3] reports a case in an adult in which the invagination commenced two feet six inches from the pylorus and says: "It is very rare to get an intussusception in an adult; it is very rare for it to occur in the upper part of the jejunum and rarer for it to be due to a polypus." Dr. Thomas Peacock[4] records a case, in an adult female, in which the upper part of the jejunum formed the seat of the invagination. 3. The number and position of the growths. Cases in which a single innocent pedunculated tumour has been found in the small intestine are numerous, but I cannot find any record of a case where the pedunculated growths were so numerous and situated so high up in the alimentary canal as they were in this case. Leichtenstern,[5] in 128 cases of intestinal polypi, found that five (2·95 per cent.) were jejunal and two (1·5 per cent.) duodenal, but he does not mention whether they were single or multiple. Kanthack and Furnival[6] recorded a case of multiple polypi in the duodenum and jejunum, but they were very small in size. Mr. Treves,[7] speaking of intestinal polypi, says: "About 80 per cent. are met with in the rectum, next in frequency come the ileum and colon. They are rare in the jejunum and still rarer in the duodenum." I think it hardly possible to doubt that although the lowest polypus was not found at the apex of the intussusceptum as is usually the case, these growths were the indirect if not the direct cause of the invagination. I am indebted to Dr. Maurice for permission to publish this case.

[1] Principles and Practice of Medicine, second edition, 1888, vol. ii., p. 409

[2] Intestinal Obstruction, p. 42.

[3] Transactions of the Pathological Society of London, vol. xli., p. 121.

[4] Ibid., vol. xxiv., p. 108.

[5] Cyclopedia of the Practice of Medicine, Ziemssen, vol. vii.

[6] Transactions of the Pathological Society of London, vol. xlviii., p. 83.

[7] Intestinal Obstruction, 1899, p. 263.

Medical Societies.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Better Housing of Rural Populations.

A MEETING of this society was held on Jan. 11th, Dr. J. C. MCVAIL, the President, being in the chair.

Mr. C. E. PAGET, medical officer of health of the County Council of Northamptonshire, read a paper on the Better Housing of Rural Populations. The question of the housing of the labouring classes was, he said, everywhere closely bound up with economic considerations. They were at present confronted by a high degree of commercial prosperity in the towns and an unprecedented depression of agricultural industry, the consequences of which were seen in the flow of population into the towns, where the substitution of business premises for dwellings led to the crowding of the poor into tenements ill adapted for the purpose. The success of the erection of blocks of flats and the establishment of cheap trains connecting with suburban districts in providing a remedy depended on such complex conditions as not infrequently to create new evils. It might be thought that the depletion of the rural population to the minimum required for the culture of the land would facilitate the housing of the agricultural labourers, but the depreciation of cottage property led to such neglect of repairs as too often to necessitate abandonment or demolition. In the final report of the Royal Commission on Labour in 1894 Mr. Little classified the ownership of cottage property as (1) land-owners who provided cottages for all or some of the labourers working on their estates; (2) private owners letting the cottages at the best rents they could obtain; (3) lease-holders or life-owners; and (4) occupying owners. The first class were, as a rule, satisfactory in character though rarely sufficient in number. The second class were less satisfactory, and if the owner had not an independent source of income they were no better than those of the lease- or life-holder, which were the worst of all, except, perhaps, the few owned by the labourers themselves, and for the most

part erected by squatters on waste lands with insecure tenure. Dr. G. Wilson, the medical officer of health of Mid-Warwickshire, in a house-to-house survey some 25 years ago, reported that in many villages from 15 to 20 per cent. of the cottages had but one sleeping-room and 50 per cent. had only two, the worst being those which had drifted into the hands of impecunious owners. In the eastern and midland counties the villages were "open" or "close," the latter being the property of the land-owner on whose estates the tenants were permanently employed; but there were times when additional labour was required, and this led to the growth of "open" villages with a number of owners. The more accessible these villages were the more rapid was their growth and the worse, as a rule, were their sanitary conditions. The motives that prompted the creation of the "close" village were not always philanthropic or æsthetic, for prior to the passing of the Unions Chargeability Act in 1865 each parish had a direct interest in keeping down the number of resident labourers who in their old age would have to be maintained by the rates. This was easy when the whole belonged to a single owner, but where the land was in the hands of a number of small proprietors each sought to make a personal profit by the erection of cottages at the lowest possible cost for construction or maintenance, and Mr. Paget described the state of one such village in his district, in which 11 per cent. of the cottages were condemned as unfit for human habitation and 16 per cent. of the remainder were insanitary and overcrowded. A representation by the local authority, followed by an inquiry by the County Council and a recommendation for the adoption of Part III. of the Housing of the Working Classes Act, fell through at last from the reluctance alike of the parish and the rural district to bear the expense, though the necessity was admitted by all parties, while the impossibility of closing even the worst of the cottages was clear, for to do so would render the tenants homeless or aggravate the overcrowding of the rest. Coming, then, to the principles involved in the provision of houses for the labouring classes at the cost of the public, he believed that it was under certain circumstances justifiable, indeed necessary; it should not be done recklessly, but it should not be less easy in rural than in urban districts. The Housing Acts were not opposed to it when the need for *bonâ fide* agricultural labourers' cottages was palpable, and there was no probability of the need being met by private enterprise. On the other hand, the influence of the present system of outdoor relief in the maintenance of the worst class of dwellings should not be ignored, and while a local authority was acting rightly in providing cottages for the hard-working labourers who could not pay remunerative rents, they were not justified in fostering pauperism, nor should they, in his opinion, draw on public funds to a greater extent than would be required for the maintenance of the same poor under the Poor-law authority. He was pleased to observe that Section 63 of the Act of 1890, disqualifying for tenancy persons in receipt of relief other than medical, had not been repealed. The instance which he had quoted well illustrated the tedious procedure hitherto involved in the adoption of Part III. by rural authorities, and often, as in that case, with no result, although the need for it was admitted by all the authorities concerned. The Act of 1900 was intended to simplify the proceedings. He wished that it had done more in this direction, but the only evident advantages of the new procedure were (1) the repeal of Section 55 (especially the clause requiring the district council to wait until the next election before acting on the consent of the county council), and (2) the sixth section of the Act, by which if a parish council resolved that the rural district council had failed in its duty in this respect the county council, if satisfied after due inquiry as to the default, might assume the powers of the district council. He was, however, very doubtful as to any parish council taking such action, especially in the event of the cost having to be met by the parish as a contributory place. Another and most important question was whether, as a rule, the expenses of carrying out Part III. should be borne by the whole district or by the parish only. It appeared from subsection 2 of Section 55 of the Act of 1890 that the legislature was of opinion that a special case needed to be shown why the expense should not be borne by the rural district. With this view, the principle of which was involved in the Unions Chargeability Act of 1865, he was in entire agreement, the more so as the growth of insanitary "open" villages was the consequence of the selfish action of land-owners in the maintenance of "close" villages, the owners of which ought to bear their share in remedying the evils to the creation of which they had contributed. But, at the same time, there were circumstances under which he would restrict the burden to a contributory area, even more limited than the parish, as where a mining village had sprung up on its borders. Still, in most cases the parish itself was not wholly responsible, and he regretted the repeal of this subsection, since the principle of the former Act was upset by that of 1900, which seemed to give the county council or district councils no power to impose the cost of providing cottages on any area other than that for which the application was made or granted. The power of taking action hitherto confined to the district council was now shared by the parish council, the functions of the county council being still simply judicial. He was strongly of opinion that not only ought their consent to have the force of a confirmation but that they should enjoy, equally with the inferior councils, this and other powers under this matter, as they already did in the prevention of river pollution. They would then be in a position to make systematic and independent inquiries throughout their administrative areas, and to give to the work a thoroughness and uniformity which it could never acquire under the present haphazard methods.

Dr. G. REID, medical officer of health of the Stafford County Council, advocated greater powers for the county councils especially in compelling the district councils to act; the influence of the parish councils was *nil* or obstructive and their creation was a retrograde measure. The fact that the sanitary authorities were often practically the same as the boards of guardians was one cause of sanitary neglect in the rural districts, the inefficiency of the sanitary inspectors being another. He was in favour of house-building by local authorities, not that it would be generally adopted, but since it would stimulate land-owners.

Dr. J. S. TEW, medical officer of health of the West Kent combined districts, found that in many places the fear of the Act had stimulated local builders. In one village it had been adopted with such success that further building had been resolved on. In this instance it was the parish council that had taken the initiative, but Penshurst was an exceptional village.

Dr. E. C. SEATON, medical officer of health of the administrative county of Surrey, would remind the society that house sanitation was not the whole duty of county councils, who often had to incur great expenses in connexion with sewerage and water-supply, and they might, as his council had, properly refuse an application on the ground that the houses would be taken up by men from the towns.

Dr. A. NEWSHOLME, medical officer of health of Brighton, urged the equalisation of rates over wider areas. Even in Brighton the parishes of Hove and Preston were less heavily rated than was that of old Brighton. It might, he maintained, be just to build houses that would for some time be a burden on the rates, and if before demolishing condemned property the local authority erected suitable dwellings in other parts it would avoid the hardship of displacing the tenants and lessen the value and cost of acquiring the old tenements.

The PRESIDENT and Mr. PAGET made a few further remarks.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Cases of Disease of the Prefrontal Lobes.—Skiagraphy v. the Practitioner.—Exhibition of Cases, Pathological Specimens, &c.

A MEETING of this society was held on Jan. 11th, Dr. GORDON BLACK, the President, being in the chair.

Dr. T. CHURTON read a paper on Some Cases of Disease of the Prefrontal Lobes. He said that among the problems to be solved during the twentieth century there was not one surpassing in interest or in importance that of the functions of the prefrontal lobes—in interest because they were the specifically human or social lobes; in importance because they were probably always at fault in the ever-increasing number of cases of insanity; possibly also in the grosser, or even in all, forms of crime. And the consideration of their diseases was of present

practical use, for tumours had been successfully diagnosed in, and removed from, them by Durante and others. Dr. Churton proceeded to describe the anatomical limits of the lobes; the fibres which had been found degenerated after their removal; the views as to their function held by Wundt, who ascribed to them the faculty of apperception—that was, the power of selection of the ideas or mental images to be the subject of thought or attention at a given moment; and the contrary views of Lichen, who maintained that there were at least four association centres in the hemisphere and that the prefrontal lobe was merely one of them, the others being the insula, the greater part of the temporal lobe, and the posterior part of the parietal lobe. The results of removal of the lobes in animals were summarised and it was inferred from these and from cases of disease that the use or function of the lobes was briefly (1) to permit or to inhibit certain proposed acts, according to the memory of former results of such acts; and (2) to excite the lower centres of sense (or their "memory-cells") and motion in the absence of external stimuli, thus acting as an internal store of accumulated stimuli. Diseases of the lobes, besides congenital defects in the cells found in some criminals, were divided into irritation disorders and depression disorders. Excessive curiosity in a boy with chorea; cases of insanity in which the attention was fixed upon one idea; hypnotism in which it was fixed upon the auditory cells receiving the suggestion of the hypnotiser, to the exclusion of all other excitations, external or internal; hysteria; and simple (volitional) malingering were included in the first division, as illustrations of disorders characterised by depression of the activity of the prefrontal cells. Cases were briefly related of (1) simple automatism due to bilateral abscess in the prefrontal region; (2) a similar case, but without necropsy; (3) a similar case, but with changes in "reflex" conduct also—dementia; (4) curious acts and mis-timed humour, with sarcoma in the third right frontal gyrus; (5) whimsical conduct during life—gummata in the prefrontal lobes; the age of the patient was 14 years; (6) a man, aged 27 years; humorous conduct; anosmia in the right nostril; aneurysm of anterior communicating artery invading the right lobe; and (7) a man, aged 36 years, whose symptoms appeared in the following order: in June, 1899, he could not smell flowers; in February, 1900, he was sleepy, blundered at work, was forgetful, and was negligent about dress. In April he lost interest in home and family. He still saluted friends and in the usual manner. In June urine and fæces were passed unconsciously and unnoticed, although he reacted normally, though rather slowly, to ordinary stimuli. In July (in hospital) he showed no curiosity or interest in anything; his replies were normal and gruffly humorous. His memory of events in his illness was fairly good but was said to be somewhat distorted. He died in September. A psammo-sarcoma as large as an orange had grown from the falx cerebri, compressing both prefrontal lobes, the left more than the right, and had passed beneath the corpus callosum; pression upon the left corpus striatum. This specimen was shown. It appeared that it was not the absence of so-called intelligent replies and other actions in response to excitations from without but the absence of spontaneity—i.e., of excitation from within—which was the distinctive sign of prefrontal paralysis.

Mr. W. H. BROWN read a paper on Skiagraphy *v.* the Practitioner, pointing out the danger to the practitioner which lurked in the discovery of the x rays and its indiscriminate use by the laity. The evils to the patient of over-exposure had already brought the "unknown quantity" x into the law courts; another person often injured was the medical attendant in cases of fracture. The public had quickly seized on so attractive a check on their medical man's work, and the patient and his friends soon tried him before the "shadow" judge. The village *savants*, in solemn conclave at the inn, guided by the light of the x ray, pronounced verdict on their medical attendant and in one case almost ruined him. Now it often happened that a limb, though not skiagrammatically perfect, was yet functionally so, but the public, as in other matters, leant rather towards what was pleasing to the eye than simply useful, and, comparing with the skiagram of the corresponding bones, judged accordingly, so that the confidence in, and perhaps practice of, the medical man was destroyed, although his treatment had produced a sound and useful limb, a result which a few years ago he would not have feared to have had proclaimed from the housetops, but which he now sought to hide under a bushel, for the evils which he did lived after him, in fact, until at length interred with his patients' bones. Continuing, Mr. Brown said that these remarks naturally suggested wiring in all cases, but he himself did not think that the time had quite yet arrived when they could with perfect safety advise an operation in every case of simple fracture, and this being so it would follow that in some cases the skiagram would reveal an asymmetrical union of bone on account of which the medical man might be charged with malpractice; it would, therefore, be wise for him in all cases to protect himself by dividing the responsibility with a neighbouring practitioner, and if possible by having the limb skiagraphed before and after "setting." Cases were then referred to when the x rays had given rise to quarrels between patients and their medical men, and at the end a large number of fractures were put on the screen which had resulted in useful limbs to their owners, though the skiagram showed no trace of beauty of outward form or grace. The x rays were good servants but bad masters; of the limits to their future development they could only speculate. With Hamlet they might say:—

> "Angels and ministers of grace defend us!
> Be thou spirit of health or goblin damned;
> Bring with thee airs from Heaven or blasts from hell;
> Be thy intentions wicked or charitable?
> Thou comest in such a questionable shape,
> Oh, answer me!
> Let me not burst in ignorance."

The following cases, pathological specimens, &c., were exhibited:—

Mr. W. R. BATES (Ilkley): A case of recovery from Tuberculous Meningitis. (The patient was shown.)

Mr. P. J. CAMMIDGE: A specimen of Blue Urine.

Mr. H. LITTLEWOOD: 1. Specimens from two cases of Perforated Gastric Ulcer. 2. Carcinoma of the Large Intestine: (*a*) removed from the splenic flexure; and (*b*) from the sigmoid, with end-to-end union. 3. Fibroid of the Cervix removed by abdominal pan-hysterectomy. 4. Papilloma removed from a Female Bladder.

Dr. A. G. BARRS: (1) A case of Recovery from (?) Posterior Basal Meningitis; and (2) a Heart from a fatal case of Chorea.

Mr. B. G. A. MOYNIHAN: (1) Partial Thyroidectomy in a case of Exophthalmic Goitre (with Dr. GIRLING); (2) a specimen from a case of Anthrax; and (3) direction showing an Arterio-venous Aneurysm, resulting from a bullet-wound.

Dr. T. WARDROP GRIFFITH: A specimen of Tricuspid Stenosis.

Mr. W. H. BROWN: (1) A case of Intracranial Aneurysm following Fractured Base of the Skull; (2) Epithelioma of the Scalp removed from a patient, aged 78 years (the patient was shown); (3) a case of Fæcal Fistula following Suppurative Peritonitis; and (4) Lumbar Colotomy done six years ago for tuberculous proctitis.

Mr. MAYO ROBSON: A specimen of Malignant Disease of the Stomach (colloid carcinoma) excised. (The patient was shown.)

Dr. J. B. HELLIER: (1) Uterus with Myomata, Pyosalpinges and Ovarian Cyst removed by Abdominal Hysterectomy; and (2) Unusual case of Blighted Ovum.

Dr. E. F. TREVELYAN: (1) A case of Wasting of the Muscles of both Hands in a man, aged 28 years; and (2) a case of Choreiform Movements of Long Duration in a man, aged 40 years.

LIVERPOOL MEDICAL INSTITUTION.

Paralysis of Doubtful Diagnosis.—Exhibition of Patients and Specimens.—Uræmic Convulsions treated by Bleeding.

THE seventh ordinary meeting of this society was held on Jan. 17th, Mr. EDGAR BROWNE, the President, being in the chair.

Dr. T. GERALD GARRY read notes of a case of Paralysis in a young girl, aged 21 years, which had been diagnosed as acute anterior poliomyelitis but which he considered to be acute lead poisoning with resulting lead paralysis. The initial attack occurred 12 months previously with fever, abdominal colic, headache, severe pains in the upper limbs, and constipation. At the end of a week loss of power followed in both the upper limbs, the right arm recovered in time, but the left arm remained paralysed. The deltoid, the infra-spinatus, the triceps, the latissimus dorsi, the muscles

at the back of the right forearm, and the muscles of the thumb and index fingers in both hands were atrophied. Contractility to the faradaic and continuous currents was absent in the wasted muscles, but reaction of degeneration existed in the biceps, the supinator longus, and the flexor carpiradialis. Treatment by continuous and sinusoidal currents extended over a period of 18 months restored complete power to the left arm and increased power to the right arm. Dr. Garry commented upon the discovery of copper in solution in the distilled water in which the negative electrode was placed after use. Devergie in a case of lead arthralgy analysed the muscles and discovered a considerable quantity of lead. In view of this fact the discovery of copper in this case might possibly prove of diagnostic interest.—Dr. T. R. BRADSHAW did not think that the diagnosis of lead-poisoning was completely established. There was no evidence to show how lead could have got into the system, since although tinned fruits contained an appreciable amount of tin it was improbable that they would contain lead. Acute poliomyelitis was not excluded by the almost complete recovery, which was often out of all proportion to the extent of the initial paralysis, only a small group of muscles being permanently atrophied.

Mr. R. W. MURRAY showed two patients upon whom he had operated for Psoas Abscess due to Spinal Disease. In one case the operation was done when the child was aged four and a half years. Two incisions were made, lumbar and iliac, the abscess cavity was cleansed, and the wound was closed without drainage. It was now six years since this was done and the child was in good health, and there was no sign of recurrence of the abscess. In the other case the abscess was a large one, extending from the lumbar region to below Poupart's ligament. Three incisions were made—lumbar, iliac, and femoral—and the abscess cavity was cleansed and closed without drainage. The child was six years old at the time and now, seven years later, she was in good health and there was no sign of the abscess reforming.—Mr. F. C. LARKIN had practised this method of treatment since the publication of Mr. Barker's paper on the subject. The results were usually excellent in children.

Mr. RUSHTON PARKER showed a Warty Polypus of the Rectum removed from a woman, aged 53 years, from the front wall of the gut. The symptoms of hæmorrhage had existed for four years with eventual protrusion. The anus was dilated and the growth was easily reached and held by Doyen's clamp, cut off, and the stump closely sewn by many points of sulphurised catgut, closely and deeply placed and tied at each point, but with continuity of thread. No hæmorrhage resulted and the patient quickly recovered.—Mr. LARKIN mentioned a case which resembled the one which Mr. Parker had described.

Mr. RUSHTON PARKER also showed a patient on whom he had operated for Perforated Gastric Ulcer in less than three hours after the event. The patient was a female, aged 23 years, who had been under treatment off and on for symptoms of gastric ulcer for two years. On Nov. 27th, 1900, less than an hour after a meal, consisting of bread-and-butter, tea, and pancakes, she was seized with violent pain in the region of the stomach, pallor, coldness, and some collapse. She was seen at once by her medical attendant who, suspecting perforation, sent her into hospital with a request for immediate attention. Operation was undertaken and was completed in less than four hours after the onset of the urgent symptoms. On opening the abdomen, after prolonged search, in which the gastro-colic omentum was freely opened, a small perforation was found on the posterior wall of the stomach close to the smaller curvature near its middle. The edges were cut away and the opening was strongly sewn by a continuous suture through the mucosa and a double set through the peritoneal edges, one inclosing the other. A tube was put in for three days as a precaution. The patient made a good recovery, the wound healing without untoward incident.

Mr. RUSHTON PARKER also showed a patient upon whom he had operated by excising a Chronic Gastric Ulcer of which symptoms had existed for seven years and in which perforation had reached the inside of the peritoneal coat. The patient was a woman, aged 33 years, who had been disabled from work by pain in the back, which was constant except when she was lying down and taking only liquid diet. On Nov. 12th, 1900, exploration of the stomach revealed an inflammatory hardness in the small curvature. On opening the stomach there was felt a punched-out ulcer in the middle of the induration perforating the two inner coats. This was inspected through the opening and then excised, after which both openings were strongly closed with continuous sutures through the mucous and outer coats respectively. The abdomen was closed without a tube. The patient did well and the wound healed soundly, the greater part by first intention. A stitch abscess appeared at the end of a fortnight but it healed in a few days. The recovery was slow but satisfactory. She ate fish after a fortnight but did not tolerate meat without pain till two months after the operation.

Dr. T. R. GLYNN related a case of Uræmic Convulsions treated successfully by bleeding and saline transfusion. The patient, a man, aged 31 years, entered the Royal Infirmary with acute nephritis apparently of 10 days' duration and probably caused by alcoholism and a chill; the urine was scanty, of high specific gravity, and very albuminous but free from blood; the pulse was tense and the heart was enlarged. In spite of the administration of purgatives and diaphoretics, including the hypodermic injection of pilocarpine and the restriction of food to diluted milk, uræmic symptoms developed four days after his admission; one fit followed another, with coma, stertor, cyanosis, and contracted pupils. This condition having lasted several hours two pints of blood were removed and one pint of saline solution was injected into the connective tissue in the axilla and shortly afterwards half a pint into the rectum. The convulsions ceased and consciousness returned. He perspired freely for the first time, and on the next day he passed 46 ounces of urine, 20 ounces having been the maximum in 24 hours previously. During each of the following 10 days he passed on an average 70 ounces of urine in 24 hours; the albumin disappeared, the arterial tension decreased, the apex of the heart returned to its normal site, and he left the hospital in about a month apparently quite well. Dr. Glynn referred to other cases of uræmic convulsions which he had treated by bleeding but he held that the application of blood-letting in such cases was necessarily limited.—Dr. WILLIAM CARTER agreed as to the utility of bleeding in such cases as those mentioned by Dr. Glynn, and he instanced cases, one of which he had received into hospital nine years after a large venesection which had cut short uræmic convulsions and apparently saved life. In cases where bleeding was contra-indicated much good might often be done by a very free exhibition of oxygen. In yet others, where the atropine-like element of the complex urinary poison prevailed, the convulsions were promptly relieved by the hypodermic injection of morphia. Cases like those mentioned by Dr. Glynn were great facts, explain them how they might, and should encourage them to act under the guidance of a rational empiricism instead of fettering themselves with narrow and exclusive theories.—Dr. J. E. GEMMELL referred to those cases of uræmic convulsions associated with the puerperium and instanced several cases occurring during the last two years which he had treated by injections of saline solution into the rectum, in which he had seen marked improvement and return to consciousness, even before delivery, and in those cases occurring after delivery the injection of saline solution was also attended with good results.—Dr. N. RAW, Dr. A. S. F. GRÜNBAUM, Dr. E. T. DAVIES, Dr. H. ARMSTRONG, and Mr. J. WALKER also spoke, and Dr. GLYNN replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Patients.—Demonstration of Microscopical Preparations and Apparatus.—The Edinburgh Hospital in South Africa.

THE fourth meeting of this society was held on Jan. 16th, Mr. A. G. MILLER, the President, being in the chair.

Mr. F. M CAIRD exhibited four patients on whom he had performed Gastro-Enterostomy.

Dr. CHALMERS WATSON exhibited a large number of Microscopical Preparations illustrating the Comparative Pathology of Ataxia.

Dr. DAWSON TURNER demonstrated various forms of Interruptor for use with the Roentgen Apparatus.

Dr. FRANCIS D. BOYD read a paper on the Edinburgh Hospital in South Africa, with Notes on the Work, and showed a large number of excellent lantern slides illustrating the building of the Edinburgh Hospital and its fittings when complete. During the period under observation between 500 and 600 patients were admitted to the hospital

at Norval's Pont and 1800 out-patients were prescribed for. Enteric fever was the chief medical disease which was dealt with—in all over 150 cases were admitted. The onset of the disease was almost in every case identical—pain in the back of the head and in the neck and limbs; the bowels were, as a rule, constipated, diarrhœa being the exception. One marked characteristic was the extreme foulness of the mouth accompanied by inflammation of the fauces. In many cases this might be due to neglect, but it was present also in those cases which occurred amongst the hospital staff. Of the so-called pharyngo-typhoid (ulceration of the soft palate) Dr. Boyd saw only one case. Melæna occurred in two cases only; in one the attack was slight, while in the other it proved fatal in a few hours. Considering the frequency of dust-storms it was surprising to find that few of the cases exhibited affections of the upper respiratory tract. In one there was pharyngitis with aphonia, and in one œdema of the glottis which necessitated tracheotomy. Hypostatic congestion of the lungs was found in 15 per cent. of the cases. No case of true croupous pneumonia occurred as a complication and there was no case in which the pneumococcus was present in the sputum. Infarction of the lung with hæmoptysis was present in two cases and pleurisy with effusion in four cases. Hiccough was in one case a very serious and grave complication, persisting for nine days. In three cases old-standing cardiac lesions were discovered on admission. Of these cases two patients died, showing how serious a handicap such affections are in cases of enteric fever. Thrombosis was a frequent complication, occurring in 6 per cent. of the cases. As a rule it came on late in the disease, in the earliest case not showing itself until the twenty-sixth day. In these there was generally a rise of temperature with pain along the course of the vein—usually that of the leg—and œdema of the limb. In one case thrombosis of the branches of the middle cerebral artery gave rise to paralysis with aphasia. Dr. Boyd could not explain the reason of the frequency of thrombosis as a complication. It was a rare complication in America, though frequent enough in Great Britain. He did not think that it was due to the wearing of putties. Nephritis and cystitis were met with rarely and only occurred in patients who had previously had a damaged urinary tract. Relapse occurred in 5·3 per cent. of the cases, a low proportion when dealing with male patients only. There was no mortality from relapse. These relapses occurred although there was no error in feeding. Dr. Boyd thought that it was probable that re-infection took place from the mesenteric glands on subsidence of the reaction in the glands, the poison being set free as the lymph stream was re-established. The fever might be divided into three types: (1) the mild or abortive; (2) the grave; and (3) the apyrexial. Numerous cases of the mild form were seen, headache, malaise, and gastro-intestinal disturbance with mild fever lasting from five to 10 days being the symptoms observed. Of the grave type there were two distinct classes. In one the gastro-intestinal symptoms predominated, the tongue being very foul, the abdomen much distended, and nourishment being not well taken and feebly assimilated. In the fatal cases very extensive ulceration of the small intestine was found. In the second variety, which might be described as toxæmic, the rash was marked and the temperature was high while nervous symptoms predominated, the abdominal symptoms being subsidiary. Only one case of the apyrexial type was noted—in one of the members of the staff who had been inoculated. The temperature in this case only once rose to 99·4° F., being as a rule subnormal. The condition appeared to be a mild attack of enteric fever modified by inoculation. Widal's reaction test was employed in all doubtful cases and in most cases even when the diagnosis was certain. The diluting medium was either bouillon or normal saline in a dilution of 1 in 30. From three to six observations were always going on, so that a check was thus established. The culture used was from 24 to 36 hours old. In discussing the diagnosis of these cases Dr. Boyd asked, "Is there any other known condition except enteric fever under which they can be classified?" In some of their features they closely resembled Malta fever, agreeing in the mode of onset—severe headache, gastro-intestinal disturbance with splenic enlargement—but differing in that none of the cases showed the characteristic relapse. In six there was diarrhœa which was uncommon in Malta fever; in none were there fleeting articular pains so characteristic of Malta fever. Dr. Boyd did not think that these were really cases of Malta fever, but was inclined to regard them as cases of enteric fever modified possibly. In concluding thus he quite recognised the gravity of the position. If the agglutination reaction were absent in 6 per cent. of the cases in this epidemic did it not rather shake their faith in the value of this test as a diagnostic sign? This he feared was the conclusion to which he had unwillingly come. Was there, he asked, such a disease as simple continued fever? Most army medical men who had had experience assured him that there was a definite febricula which affected white people in hot climates. Civil surgeons were, on the other hand, inclined to regard all cases of simple continued fever as undiagnosed enteric fever. On analysing the 38 cases admitted to the Edinburgh Hospital in 10 no definite diagnosis could be arrived at, the patients being seedy and run down and showing no fever while in hospital, and Widal's test was negative. Dr. Boyd thought it was very probable that these were merely convalescent cases from influenza, which was a common disease in South Africa. Of the remaining 28 cases seven were undoubtedly those of mild enteric fever, Widal's test being positive in each. Four cases may have been abortive enteric fever, Widal's test being positive, but these patients had been inoculated against enteric fever, so no diagnostic evidence could be obtained from Widal's reaction. In six cases there was a history of former repeated attacks of malaria. Two other cases were due to catarrhal dysentery and the rest were clearly due to well-defined diseases. From this examination it must be concluded that simple continued fever while useful for a preliminary diagnosis could scarcely claim to be a distinct disease. As a rule, if the case were watched a more definite diagnosis could be made out. If 18 per cent. of such cases were due to enteric fever it was desirable to have more definite diagnosis, or else sanitary measures should be taken in all febrile conditions where enteric fever could not be definitely excluded. To get a satisfactory answer as to the actual value of preventive inoculation the statistics of the whole campaign would first of all have to be published. Of the staff of the Edinburgh Hospital 58 were inoculated, 27 being done once and 31 twice. In seven the inoculation produced no appreciable effect; in a smaller number there was merely slight local reaction. In the large majority, however, there was marked local and general reaction—malaise, faintness, and a rise of temperature of from 2° to 4°. Of those members of the staff who were inoculated nine developed enteric fever, one case proving fatal on the twenty-fifth day from cardiac failure. Three were very severe attacks with persistent high fever and marked abdominal or nervous symptoms; in four cases the attack was pronounced, and in one it was apyrexial. Relapse occurred in one case, complications in two (viz., pleurisy with effusion), and in one thrombosis of the veins of the legs. In the fatal case inoculation had been practised twice, as it had also in four of the milder cases. Of the soldiers admitted into hospital inoculation had been performed once in every case. 18 cases of enteric fever were observed; in these two were very severe, five were severe, and the rest were apparently modified attacks. Experience thus seemed to show that while inoculation appeared to modify the disease very severe attacks did occur in those cases in which the patient had been inoculated. He could not, however, conclude from this that inoculation had been valueless, for the attack might have been still more severe. It was very important to note that in the case of three of the members of the staff who developed enteric fever agglutinative power was absent during the early days of the fever, therefore it might with justice be concluded that it was not present at the time of infection. The effect of inoculation on the mortality could only be arrived at after years of experience and from the results of large numbers of cases. Dr. Boyd thought that the outlook for inoculation was hopeful. Could it be considered entirely free from harmful results? He thought that it could not. He had seen at least one case in which inoculation had markedly lowered the health of the individual, and some months later the patient developed enteric fever. The mortality of the cases in the hospital was 7·1 per cent. Perforation occurred in three cases; the greatest number succumbed to general exhaustion. Dysentery was a fairly common disease. Some 50 cases were treated in hospital. A number were of the catarrhal variety and about half of them were of the more severe ulcerative type. The amœba coli was rarely observed. This was the same as was

observed in other localities in South Africa. As regarded treatment, in mild or catarrhal cases sulphate of magnesia or castor oil and chlorodyne were the best remedies. In the severe or ulcerative cases the question of treatment was more difficult, but certainly magnesia sulphate should not be used. In some cases ipecacuanha *with* not *without* emetin seemed to act as a charm. In one or two cases no drug seemed to have any effect and the condition only improved when all drugs were stopped by the mouth and when morphia was given hypodermically. Dr. Boyd, in conclusion, alluded to the condition known as "soldier's heart," a large number of cases of which came under observation. It was found in men who had been engaged in arduous marching for months on end. There was no history of previous valvular defect and no arterio-sclerosis or kidney lesion. Shortness of breath and general weakness were complained of. The area of cardiac dulness was increased laterally and especially towards the right side. A systolic murmur was present at the tricuspid area, a venous pulsation in the neck, and no mitral lesion. These were evidently cases of dilatation of the right side of the heart from over-strain.

EDINBURGH OBSTETRICAL SOCIETY.

A Scheme of Fœtal Growth.—Intra-peritoneal Rupture of Ovarian Cysts.—Uterine Retraction.

A MEETING of this society was held on Jan. 9th, Dr. R. MILNE MURRAY, the President, occupying the chair.

The following motion, proposed by Professor A. R. SIMPSON and seconded by Dr. W. G. AITCHISON ROBERTSON, was passed *nem. con.* :—

That women shall now be admitted to the Fellowship of the society.

Dr. J. HAIG FERGUSON showed a Fibroid Uterus removed by Abdominal Hysterectomy.

Dr. J. W. BALLANTYNE described a Scheme (with diagrams) of Fœtal Growth, giving the averages of a large number of cases. After pointing out the rate of growth he gave the following table indicating the fœtal weight at the different months:—

Months	1½	2	3	4	5	6	7	8	9	10
Weight in ounces	½	1	2	6	23¼	41¼	56	88	120	

The figures showed a great increase in weight between the fourth and fifth months, when the fœtus quadrupled its weight. In the succeeding month it also grew very rapidly, nearly trebling its weight. After that its growth was not so rapid. The averages for the placenta were as follows:—

Months	3	4	5	6	7	8	9	10
Weight in ounces	½	1½	6½	9½	13½	15½	16¼	16½

Here the placenta markedly increased also between the fourth and fifth months, quadrupling its weight, as did the fœtus. During the next month it only added half to its weight. During the last three months it was practically stationary, so that during the last three months, at least, the placenta must mainly be a transmitter of nourishment to the increasing fœtus.

Dr. F. W. N. HAULTAIN read a paper on Intra-peritoneal Rupture of Ovarian Cysts, with special reference to operative treatment. After giving details of six cases he remarked that in the majority of cases rupture was apparently unassociated with discomfort and it was therefore only in those cases where the cysts had been of sufficient size to have attracted attention that any knowledge of such occurrences could be elicited. The absence of symptoms was doubtless due to the innocuous contents of the cyst and to their slow escape, a sudden gush being prevented by intra-abdominal pressure, the peritoneal cavity being merely potential. The largest proportion of recorded cases were those in which severe and dangerous symptoms supervened. Palm, in his collected statistics of 25 cases, recorded 18 deaths—three from collapse, six from acute peritonitis, three from chronic peritonitis, and six from protracted fever. Nepben, in 155 cases, showed 65 to have terminated fatally. In these instances the contents of the cysts must have been intensely irritating and in many cases probably they were septic; in a certain proportion death was accounted for by hæmorrhage. The causes of rupture were numerous, such as violence, morbid processes in the cyst wall, the result of thrombi, and intra-cystic hæmorrhage. Nutritive disturbances of the wall, the result of torsion of the pedicle, were a further frequent cause. Perhaps the commonest variety of cyst to rupture spontaneously was that with gelatinous contents, the cyst wall becoming secondarily softened. The gelatinous contents were, as a rule, more irritative, but at the same time they were but slowly absorbable by the peritoneum and might continue to distend the abdomen. These were more often found to be ruptured on opening the abdomen, as when the contents of the cyst were more fluid they were readily absorbed. In the latter case the cyst might become permanently obliterated. This occurred most frequently in unilocular broad ligament cysts, where the fluid was practically normal saline solution and was extremely rapidly absorbed, giving rise to temporary polyuria. In other cases the tumour re-distended or secondary cysts took on active growth. This seemed to be of comparatively frequent occurrence, as cicatrices were often present in the cyst walls of tumours. The contents of the cyst, though absorbable, might be irritative and might cause peritonitis with adhesions so widespread as to prove an almost insuperable barrier to its removal. Previous tapping of the tumour resulted in a similar condition. In a certain group of cases, practically lacerated cysts with gelatinous contents, no absorption took place; the opening remained patent and active secretion continued. The abdomen steadily distended with intra-peritoneal fluid. The treatment of ruptured cysts consisted in removal of the cysts as soon as possible. A certain proportion of cases after rupture seemed never to re-distend and a spontaneous cure resulted, but as delay might allow strong and widespread adhesions to form early operation was advisable. On operating in such a case, the surgeon was apt in entering the peritoneal cavity to be misled by the gush of ovarian contents and to assume that the cyst wall had been incised. An attempt would then be made to separate the cyst wall from suspected adhesion to the abdominal parietes. This resulted in stripping off the parietal peritoneum. In these cases it was well to enlarge the opening and to introduce the hand into the cavity before attempting the separation of the cyst wall. In cases with acute symptoms the diagnosis might be extremely doubtful unless there was a distinct history of a pre-existing abdominal tumour. The symptoms might be simulated by perforation of the intestine or other acute peritoneal affections. The operation could then at first be only exploratory.—Professor A. R. SIMPSON remarked that in almost all cases where the tumour disappeared it was par-ovarian in character. The most interesting were the cysts with gelatinous contents, where this material, spreading over the peritoneum and adhering to the different viscera, might become vascularised. These cases had a serious prognosis. In all ruptured cysts recrudescence almost always occurred. In some cases after rupture of the cyst peptones had been found in the urine.—Dr. D. BERRY HART, Dr. J. FOULIS, and Dr. HAIG FERGUSON also discussed the paper.

Dr. BERRY HART read a paper on Uterine Retraction with special reference to the Mechanism and Management of the Third Stage of Labour. He pointed out the discrepancies between the usual views as to the mechanism of the separation of the placenta during the third stage and the practice adopted in the management of this stage. He defined retraction as muscular action (contraction) where a part of the thickening of the muscle was retained after the contraction proper had ceased. In sections of the parturient uterus it was remarkable that the uterine wall at the placental site was thinner than elsewhere. The uterus removed by Porro's operation showed a uniformly retracted and thick wall, while uteri with the placenta still attached, obtained by post-mortem examination and thus intact uteri, had a thin wall on section at the placental site, thinner than the uterine wall elsewhere above the retraction ring. He believed that the state of the uterus after Porro's operation could not be accepted as evidence of the amount of retraction in a normal third stage, but was an over-retracted uterus owing to the longitudinal and transverse incisions necessary in the operation. Dr. Hart next drew attention to the elastic recoil of the uterus following a pain and pointed out the importance of the elastic tissue in bringing this about. He finally emphasised the great importance of the fact that the placenta was separated during the third stage by a disproportion between the placental area and the placental site, and that it followed from this that as the disproportion occurred in the elastic recoil (that is, after the pain was over) the Crédé method was a source of danger if practised during the early period of this stage before the placenta was separated.—Dr. HAULTAIN, Dr. JAMES RITCHIE, Dr. FOULIS, Dr. BALLANTYNE, Dr W. FORDYCE, Dr. H. O. NICHOLSON, and Dr. MILNE MURRAY joined in the discussion of the paper.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Delivery by Cæsarean Section and afterwards by Forceps.—Placenta Prævia.—Epithelioma of the Cervix Uteri.

A MEETING of this section was held on Dec. 21st, 1900, Dr. A. V. MACAN, the President, being in the chair.

Dr. F. W. KIDD read notes of a case of Application of Forceps where Cæsarean Section had previously been performed.—Dr. R. D. PUREFOY said that one of the many interesting points raised by that important case was the light which it helped to throw upon the behaviour of fibroids in cases in which the patient became pregnant.—Dr. SMITH said that he recollected a pregnant woman who came to him with a large tumour occupying the pelvis. On examining her under ether he could not push the tumour out of the pelvis and he thought that the woman could never deliver herself; but in fact she did deliver herself without any difficulty.—Dr. MACAN said that he thought they should either suppose some great change had taken place or else that in the second labour, for some reason, the tumour had been drawn upwards out of the pelvis.

Dr. R. L. HEARD described a case of Placenta Prævia. The patient was 31 years of age, was in her fifth pregnancy, and was admitted into the Rathdown Infirmary on Nov. 3rd, being then collapsed and suffering from acute septicæmia. Hæmorrhage had commenced 14 days previously. The fœtal heart-sounds being absent the child was considered to be dead. Dr. Heard found the whole vagina in a state of great œdema. It was with difficulty that he could reach the os with his finger, and when he did so he was unable to ascertain anything definite, beyond feeling the placenta, the os being of the size of a shilling. Ether was administered, and the cervix was dilated with a Barnes's bag. He then separated the placenta with his finger round the lower zone. It had a central insertion and was beginning to decompose. Going through it he found that the breech was presenting, the child being in the right dorso-anterior position; he then delivered by bringing down the legs. The fœtus was very slightly macerated. The placenta came away during the delivery of the body. The uterus was washed out with creolin solution and one-hundredth of a grain of citrate of ergotin was given hypodermically. Shortly after Dr. Heard had left the patient she succumbed to a syncopal attack, in spite of hypodermic injections of strychnine and ether by Dr. Pim, the application of amyl nitrite to the nostrils, a boiling hot sponge to the cardiac region, artificial respiration, and partial inversion. One of the chief points of interest in the case was, Dr. Heard thought, the œdema of the vagina. He had never seen an instance of the kind before.

The Secretary read a paper by Dr. R. J. KINKEAD on Epithelioma of the Cervix Uteri during Pregnancy.—Dr. MACAN said that he thought it was the first case of the kind which had been performed in Ireland—viz., primary removal of the carcinoma and the hysterectomy after labour. Dr. Kinkead deserved the greatest credit for having brought it to a successful termination.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on Jan. 10th, Mr. J. Rutherford Morison, the President, being in the chair.—Dr. I. G. Modlin described a case of Partial Paralysis of the Right Arm occurring in a man, aged 54 years, who dislocated his right shoulder three months ago. The dislocation was reduced under chloroform by means of the heel in the axilla. Three weeks after the accident the patient consulted a local bonesetter who kept the arm bandaged for three weeks. There were now impairment of sensation, almost complete paralysis, and marked muscular wasting, especially in the distribution of the ulnar, musculo-spiral and median nerves, indicating injury to all the cords of the brachial plexus, caused more probably by the pressure of the dislocated head of the humerus than by the method of reduction.—Some discussion followed during which it was pointed out that such cases were not uncommon. The patients usually recovered completely, but they should be warned that complete recovery would be slow, taking probably from one and a half to two years.—Dr. Modlin also described a case of Focal Epilepsy occurring in a man, aged 37 years, who gave an indefinite history of injury while drunk; he worked two days later and on the third day became delirious and exhibited pyrexia and stupor; on the fifth day he had his first fit. The fits recurred every five minutes and later every two minutes, commencing in the left side of the face, rapidly extending to the left arm and leg and subsequently becoming diffuse. A slight contusion was evident over the right parietal eminence. The patient was trephined over the right Rolandic area. The membranes bulged but did not pulsate. The dura mater was incised and a large clot was found extending as far as could be felt; as much of the clot was removed as possible, the patient having two slight fits afterwards and from this point making a complete and uninterrupted recovery.—Dr. Modlin also described a case of Ovarian Cyst complicating Pregnancy at full term. The patient was 21 years of age and when first seen, three weeks from term, was suffering from incontinence of urine and such extreme enlargement of the abdomen as to render her unable to move out of bed or to turn over. The abdomen, hugely distended, was dull on percussion up to the ensiform cartilage and was resonant in the extreme flanks, fluctuation being readily elicited. Per vaginam the uterus appeared to be pushed to the left by a large cystic tumour; through the dilated os the fœtal head could be felt. It was decided to wait and in due time, pains having commenced, delivery was expedited by forceps under anæsthesia. Eight days later, the abdomen having been rapidly increasing in size and the temperature having risen to 102° F., laparotomy was performed and a large suppurating ovarian cyst was removed by the usual method. Recovery was complete in a fortnight.—Dr. R. A. Bolam showed a case of Acromegaly occurring in a man, aged 35 years, who presented the typical enlargement of features and extremities usual in this condition. He complained of extreme headache and prostration. Although the optic discs exhibited no pallor his perimetric chart showed a decided contraction of the field of vision.—Dr. H. B. Angus described a case of Hæmatemesis from Gastric Ulcer treated by Surgical Ligature. A girl, aged 22 years, was admitted into hospital in a condition of extreme collapse from hæmatemesis which was still continuing. Having had previous experience of two cases of fatal hæmorrhage from gastric ulcer in which post-mortem examination had revealed the bleeding point to have been from a large vessel impossible of treatment by medical means he had determined upon gastrotomy and ligature in this case. The method which he had adopted was the passage of a purse-string suture around the ulcer. From the operation the patient had recovered, having no further hæmorrhage, but 10 days later she developed thrombosis and phlebitis of both femoral veins; this condition he ascribed to her extremely weak state, being unable to trace any association between it and the operation.—Dr. A. M. Martin brought forward six patients who had been operated on for the removal of Loose Semilunar Cartilage, the periods since operation varying from six months to three weeks. In all of them the cartilage at fault had been the internal. All the patients were miners, whose work, entailing flexion of the knee and rotatory movement, rendered them peculiarly liable to the accident. In five of the cases the cartilage was completely detached circumferentially, the extremities remaining fixed; in one case a portion of the inner rim was partially separated. The portion of cartilage detached was in all cases removed. The patients now exhibited perfect and useful joints and were rid of their distressing symptoms.—Dr. James Drummond read a paper on the Essentials in the Management of a Normal Case of Labour. After defining normal labour he discussed the subject under the following headings: the incidence of puerperal sepsis; occasional autoinfection; other sources of infection; the value of surgically cleansing the patient, the attendants, and the instruments; and the avoidance of frequent examinations, of ante-partum douching unless specially indicated, and of hasty instrumentation.—An interesting discussion followed in which Dr. Calthrop, Dr. Adamson, Dr. S. S. Whillis, Dr. Davis, Dr. Modlin, and Dr. J. W. Smith took part.—Dr. H. P. Bennett and Dr. A. S. Percival exhibited specimens o Glioma and Pseudo-glioma of the Retina.—Dr. Beattie exhibited (1) a Multiform Aneurysm of the Descending Thoracic Aorta containing a laminated clot of the size of a cocoa-nut; and (2) a Small Sacculated Aneurysm springing from the posterior surface of the transverse arch which had burst into the trachea.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held on Jan. 10th, Professor W. H. Thompson, the President, being in the chair.—Dr. W. Calwell showed a young man with marked Unilateral Contraction of the Chest due to Fibrosis of the Lung.—Dr. A. Fullerton showed a child from which he had removed a Congenital Sacculated Cyst of the Neck which contained blood and which subsequent examination proved to be a form of dilated lymphatics or lymphangiectasis.—Dr. John McCaw exhibited an infant who had been successfully treated by antitetanic serum for Tetanus Neonatorum.—The following specimens were shown: Dr. J. S. Darling (Lurgan): 1. Recent Extracapsular Fracture of the Femur. 2. Sarcoma of the Root of the Lung which during life simulated an aneurysm. It was a round-celled sarcoma and originating in the glands took the form of pigmented gland tissue. 3. Aneurysm of the Right Corner of the Arch of the Aorta which ruptured externally. It was taken from a soldier who had a specific history and suddenly ruptured externally one night after a bout of drinking. 4. Aneurysm of the Descending Aorta which caused death by rupturing into a bronchus. It was taken from the body of an old woman who died suddenly after coughing up a quantity of blood and in whom the cause of death was obscure, but was shown to depend on an atheromatous ulcer of the aorta protruding into the lung.—Dr. Calwell: 1 Aneurysm of the Arch of the Aorta which ruptured into the posterior mediastinum. 2. A Stomach with a small Gastric Ulcer which caused death by severe hæmorrhage.—Dr. A. B. Mitchell: Tuberculous Testicle.—Dr. S. English: Anencephalic Fœtus.—Dr. J. Lorrain Smith demonstrated the pathological features of many of the specimens exhibited.—Dr. Mitchell showed radiograms of (1) a Coin in the Œsophagus of a Child; (2) Fractured Olecranon; and (3) a rare Fracture of the Foot.—Dr. McCaw read notes of a case of Tetanus Neonatorum successfully treated with antitetanic serum. The child was brought to the Belfast Hospital for Sick Children 14 days after birth with well-marked signs of infantile tetanus and with the history that for a few days previously it had been refusing the breast from inability to suck. The umbilical scar was in a very unhealthy sloughing condition. Dr. McCaw immediately injected five cubic centimetres of antitetanic serum and two days afterwards gave a second dose of two and a half cubic centimetres of the serum. The child recovered. Dr. Lorrain Smith cultivated the tetanus bacillus from swabs of the umbilicus and specimens of the "drum-stick" organism were shown at the meeting.—In the discussion following the reading of the paper Dr. Lorrain Smith drew attention to the fact that to be effective in causing tetanus the "drum-stick bacillus" seemed to require to be associated with some other pus producing organism. It appeared that pure cultures of the tetanus bacillus, when injected into animals, did not cause, as a rule, any of the classical symptoms of the disease but did so if pus-producing organisms were injected with them. Being anaerobic it might be that the tetanus bacillus only acted when the other associated organisms had used up the oxygen.—Professor Byers said that Dr. Lorrain Smith's most interesting observations in reference to the life-history of the tetanus bacillus explained the fact that in pre-antiseptic days cases of the disease were common among the infants born in lying-in hospitals, while now, owing to proper aseptic precautions, both in the management of the mother and of the umbilicus of the child, the pus organisms had been eliminated probably as well as the tetanus bacteria; but even if the "drum-stick" bacilli got into the umbilical wound the prevention of any form of suppuration rendered its presence innocuous. He referred to the scourge of St. Kilda (tetanus neonatorum) and explained how it had been stamped out by proper antiseptic care of the umbilical cord. In reference to the employment of serums he said they could only judge scientifically of their effect when the organisms against which they were used were isolated and cultivated from the persons infected. In the case of puerperal fever where there was often multiple infection it was most unscientific to claim results for the anti-streptococcic serum until bacteriological examination of the lochia established first the prevailing type of organism present.—Dr. Henry O'Neill read a paper on Meat Inspection in which he drew special attention to the importance of the medical profession educating the public to use no meat which did not bear an official stamp that it had been duly inspected and passed as sound and non-tuberculous. Dr. O'Neill said that in both Dublin and London the butchers had been too formidable for the corporations to carry out meat inspection as thoroughly as it was done in Paris, Leipsic, and Berlin; but that in Belfast the law compelling meat inspection had been passed by the city corporation and was only awaiting the tardy action of the Local Government Board to make it legal.—Dr. R. W. Leslie read notes of a case of Hæmothorax occurring in a boy, aged 14 years, following a wound in the side caused by a pen-knife. After two tappings, on each of which blood was drawn off, the patient recovered with full expansion of the affected side.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 10th, when Dr. A. Whitfield showed a Mother and Child affected with Syphilis. In both cases the disease was acquired. The child was aged six years and had been seen with a generalised early eruption of syphilis at the age of five years. The mother had been treated for recent syphilis two years before, that was when the child was four years of age. At the time of exhibition the mother showed a symmetrical eruption of very perfect rings about one inch in diameter, situated on the flexor surfaces of the forearms. The rings were of a very superficial character and of a florid pink colour, so that without the previous knowledge of the patient the diagnosis would have presented considerable difficulties. The child had been shown to the society one year before with a marked eruption on the back. She had been rendered at one time very dangerously ill by her mother's having disobeyed orders. Owing to the fact that grey powder had disagreed with the stomach she had been ordered mercurial inunction, but the mother had supplemented this by giving her some of her own mercurial medicine. The result was a severe mercurial stomatitis with considerable ulceration of the mouth. The child might now be said to be on the road to recovery, but she still showed ulcerative syphilitic lesions belonging to the deep ecthymatous type.—Mr. Mower White showed a patient, aged 39 years, whose illness began with sudden severe abdominal pain while she was lifting a coal-scuttle, and on the following day she was admitted into hospital suffering from acute peritonitis. She was three months pregnant. The abdomen was opened in the middle line and a large quantity of thin pus escaped; in the lower part of the abdomen the peritonitis was general, and plastic lymph coated many of the coils of the small intestine; the pelvic organs were normal; the peritoneum in the neighbourhood of the vermiform appendix, which lay in a subcæcal fossa, was very acutely inflamed; the appendix was therefore removed, although it showed no gross lesions externally. Subsequently, a perforation of the small intestine covered by the lower extremity of the great omentum was found; the perforation, which appeared to be in the lower part of the ileum, was placed on the unattached side of the bowel; it measured one-third of an inch across; the sides of the opening measured half an inch, so great was the inflammatory thickening of the intestinal coats around the aperture. The patient's condition seemed to preclude enterectomy. To close the aperture three sutures were passed right across the ulcer, serving to bring its sides fairly closely together; then the omentum, first carefully cleansed, was wrapped round the intestine so as to cover four or five inches of it and was sutured to both aspects of the mesentery and also to the surface of the bowel. During the operation some gallons of hot salt solution were used to irrigate the peritoneal cavity and as far as possible the lymph was stripped off the peritoneum. A large rubber drainage-tube was left in the pelvis. The patient made a good recovery. She aborted on the seventh day after the operation; the temperature was normal on the twelfth day and the drainage-tube was finally removed on the fourteenth day. From the seventeenth to the thirtieth days there was fever (maximum temperature 103° F.) without apparent cause. The bowels were constipated throughout the illness. Mr. Mower White suggested that the case was one of typhoid fever in which perforation had occurred, though he had not during the operation observed any evidence of further ulceration of the ileum. Possibly, however the febrile period interrupting convalescence represented one of the common relapses of this disease.—Dr. Emslie Smith showed for Mr. Ewen Stabb: (1) A case of Myoma Uteri; and (2) a case of Tumour of uncertain nature in connexion with the Right Kidney.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Jan. 15th, Dr. William Ewart, the President, being in the chair.—Mr. C. A. Morris read a paper

on Tubal Pregnancy, with notes on two cases of this condition upon which he had operated. Attention was called to the many and generally uncommon diseases which were at one time considered as the cause of pelvic hæmatocele, whilst at the present time tubal pregnancy was looked upon as the condition which in the majority of cases produced it. The cases read showed two of the terminations of tubal pregnancy; in one an early gestation sac ruptured into the peritoneum and abdominal section was performed while hæmorrhage was proceeding. The fœtation was removed with its adjacent tube and ligament In the second case a tubal pregnancy had ruptured extra-peritoneally between the layers of the broad ligament, and as it continued to distend this and to cause pressure symptoms abdominal section was performed. The tumour of the tube was removed, but the distended broad ligament was left untouched. Both operations were successful and the patients were now in good health. The structure and mode of formation of a tubal mole were touched upon and several specimens of this morbid condition and of tubal pregnancy were shown.—A discussion followed, in which the President, Dr. Vincent Dickinson, Dr. C. J. Harrison, and Mr. D. Vinrace took part.—Dr. J. Blumfeld read a paper on the After-effects of Anæsthetics. After alluding to the preparation of patients for the taking of anæsthetics generally and to the best treatment of them during the hours immediately following operation, Dr. Blumfeld described more specifically the after-effects usually experienced from the various commonly used anæsthetic agents. He related cases which were of interest from the more unusual nature of the after-effects, and he divided these effects, broadly speaking, as they affected (1) the central nervous system; (2) the viscera generally; and (3) the circulatory system. Cases of paralysis of peripheral and central origin were discussed and the relationship of insanity and epilepsy to the conditions of general anæsthesia. Dr. Blumfeld concluded by laying stress upon the extent to which after-effects might be avoided or diminished by proper attention to the selection and administration of anæsthetics and the proper preparation and after-treatment of the patient.—A discussion followed in which the President, Dr. J. J. Marsh, Dr. C. C. Gibbes, Dr. C. J. Harrison, Dr. Vincent Dickinson, Mr. D. Dallaway, Mr. J. D. Mortimer, Mr. Foster Palmer, Mr. R. L. Norman, and Mr. Vinrace took part.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Jan. 16th, Dr. A. T. Wilkinson, the President, being in the chair.—Dr. W. E. Fothergill showed Microscopic Sections of a Growth which in appearance and in clinical history corresponded to the accepted descriptions of the so-called deciduoma malignum. He also exhibited sections of hydatid mole, of decidual tissue, and of the chorionic structures from which, according to different authorities, the growth in question was derived.—Professor G. A. Wright showed a specimen of Simple Hypertrophy of the Breast removed from a girl, aged 12 years. Both breasts were affected. The gland removed weighed about 8 lb.—Dr. T. A. Goodfellow and Professor Wright showed a specimen of Arteritis, probably gouty. Thrombosis of the popliteal artery led to gangrene of the foot and the limb was removed above the knee. Recovery followed. The patient, a man, aged 52 years, had previously suffered from phlebitis of the veins of the leg with resulting embolic pneumonia.—Mr. J. E. Platt showed a specimen of Trichinosis of the Triceps Muscle. The trichinosis had been discovered during the course of an operation for a supposed sarcoma of the muscle. The patient was a man, aged 61 years, a labourer by occupation, and the trichinosis in all probability had originated three years previously, at which time he had suffered from an illness supposed to be influenza. A tumour in the triceps muscle had been first noticed three months before he came under observation and had attained the size of a tangerine orange. After removal the tumour was found to be probably of an inflammatory nature, but its true relation to the trichinosis could not be definitely stated. The man had made an uninterrupted recovery. Some remarks were made on the previous occurrence of trichinosis in this country.—Dr. Arnold W. W. Lea showed a series of Uteri and Appendages removed by the "vaginal radical operation."

SOUTHPORT MEDICAL SOCIETY.—A meeting of this society was held on Jan. 9th, Dr. R. Harris being in the chair. Three new members were elected.—The chairman briefly reported the result of the recent interview with the coroner on the subject of medical evidence at inquests. The coroner had declared himself entirely in the hands of the county council in the matter and advised a direct approach to the council.—After some discussion the question was left in the hands of a sub-committee for further consideration and report.—Dr. W. H. Barrett read notes of an Unusual Case of Interstitial Nephritis complicated by the presence of a sarcoma. (The specimen was shown.)—Mr. Charles G. Lee (Liverpool) read an interesting paper entitled, "Four Cases from a Specialists' Note Book." Particulars of two cases of acute glaucoma and two cases of cerebral suppuration following suppurative otitis media were given and the practical lessons deduced.

MANCHESTER MEDICAL SOCIETY.—At the annual meeting of this society held at Owens College on Jan. 16th the following gentlemen were elected office-bearers for the ensuing year:—President: Mr. A. H. Young. Vice-Presidents: Dr. A. Donald, Dr. J. Mackenzie, Dr. W. Milligan, and Mr. A. Wilson. Honorary treasurer: Mr. J. W. Smith. Honorary secretary: Dr. E. S. Reynolds. Committee: Mr. W. Coates, Mr. J. Collier, Dr. J. J. Cox, Dr. T. Harris, Dr. M. P. Ledward, Mr. W. P. Montgomery, Dr. F. C. Moore, Mr. J. H. Ray, Dr. C. G. L. Skinner, Dr. W. K. Walls, Dr. R. B. Wild, and Dr. R. T. Williamson. Library Committee: Dr. T. N. Kelynack, Dr. A. W. W. Lea, and Mr. J. E. Platt. Auditors: Dr. F. J. H. Coutts and Dr. Edgar Helme.

Reviews and Notices of Books.

Cancer of the Uterus: its Pathology, Symptomatology, Diagnosis, and Treatment. By THOMAS STEPHEN CULLEN, M.B. Toronto. With 11 Lithographic Plates and also 300 Coloured and Black Illustrations in the Text. London: Henry Kimpton. 1900. Pp. 693. 8vo. Price 31*s.* 6*d.* net.

THIS book of Dr. Cullen's is further proof, if indeed proof were wanted, of the exceedingly good work which is being done by numerous observers at the Johns Hopkins University. It is a monograph on cancer of the uterus of great value and is a lesson as to the right method of dealing with the abundant material of this kind which must be met with in every large hospital. The work is founded upon the examination of 182 cases of cancer of the uterus. Of these, 128 were squamous-celled carcinoma of the cervix; 19 adeno-carcinoma of the cervix; and 35 adeno-carcinoma of the body of the uterus. A full and good account is given of the normal anatomy and histology of the uterus, illustrated by numerous figures, many of which are taken from Kelly's "Operative Gynæcology." The chapter upon the Removal and Examination of Uterine Tumours for Diagnosis illustrates how completely and methodically Dr. Cullen has examined his material and enables us to form an opinion as to the value of his results. In describing the appearances and structure of squamous-celled carcinoma the author states that this variety of cancer of the cervix consists of an ingrowth and branching of the squamous epithelium of the part, and coincident with the ingrowth there is generally a branching outgrowth of the stroma and epithelium, forming a cauliflower or mushroom-like growth. As to whether the stroma is a malignant growth or only due to irritation the author leaves undecided. The account of all the varieties of cancer is illustrated by numerous cases very fully recorded, both as regards their history, clinical features, and the result of macroscopic and microscopic examination. It may be objected that this greatly and unnecessarily increases the size of the book. It is, however, not a work mainly intended for students, and in a matter of this kind what the experienced reader wants are facts upon which he can come to his own conclusions, apart from the deductions drawn from them by the author. As to the quality and the quantity of the facts in this book there can be no complaints. Dr. Cullen points out that macroscopically the

cauliflower-like growth is really made up of papillary masses consisting of finger-like outgrowths. A very interesting chapter is that upon the extension of squamous carcinoma of the cervix. The author agrees with Winter that the lymph-glands are usually involved late in the disease, and in answer to the question as to why this is so he suggests that the epithelial cells are too large to enter the lymph radicals. The growth must therefore extend out into the broad ligament and break into a large lymph channel before the cells can reach a lymph gland. It is stated in the preface that the reader will be surprised at the small amount of space devoted to symptomatology, but the results of his researches lead Dr. Cullen to the conclusion that diagnostic symptoms at best are meagre and in the early stages give little or no clue to the real nature of the disease. Hence the value of curettage when there is the slightest uterine hæmorrhage that cannot be explained. The first symptom in the great majority of cases of squamous-celled carcinoma is usually a bloody discharge. In the chapter upon the Diagnosis of the Variety of Cancer of the Uterus all the various conditions likely to be confounded with malignant disease are given in detail, and this is also done in the corresponding sections devoted to the differential diagnosis of adeno-carcinoma of the cervix and adeno-carcinoma of the body of the uterus.

In the treatment of squamous-celled carcinoma it is said of abdominal hysterectomy: "this operation should be preferred in all cases where the patient is not too stout," and the method described by Werder is advocated. These extensive operations are at the present time practised by many of the American school of gynæcologists. They have, however, not yet been done in sufficient numbers to enable us to judge whether they are likely to increase the chance of complete cure or not. We must remember that the analogy so often drawn between cancer of the uterus and cancer of the breast does not in reality hold good. Werder's operation of abdominal hysterectomy is undoubtedly a very ingenious method of avoiding fouling of the peritoneal cavity with the carcinomatous growth, and he deserves great credit for it. Whether it will ever take any permanent place in the art of surgery remains to be seen. Even when the ureters are catheterised the danger of including one in the ligature is great, and in these cases catheterisation of both is often impossible. The description of vaginal hysterectomy is practically the same as that in Kelly's Gynæcology. A warning is given against the fallacious advice that even when the disease is too advanced for complete removal hysterectomy should still be done so as to give the patient relief. Many of such patients obtain no relief at all and run the risks of the operation without any resulting benefit. In adeno-carcinoma of the cervix stress is laid upon the changes in the epithelium. Dr. Cullen says that the cells differ greatly from those of the normal cervical epithelium and cannot morphologically be recognised as derivatives from it. He also finds that, at any rate in the early stages of both squamous carcinoma and adeno-carcinoma of the cervix, no changes are to be found in the body of the uterus. One interesting fact is brought out, and that is that all forms of cancer are equally common in the white and black races, contrary to the idea which at one time prevailed that cancer was rare in the negress. The extreme importance of the examination of scrapings in the diagnosis of early adeno-carcinoma of the body of the uterus cannot be too much insisted upon, and what striking results may be obtained by the examination of such scrapings by a competent pathologist is shown by many of the cases recorded. A very good example is figured on page 383. Dr. Cullen is inclined to believe that the papillary form of cancer of the body of the uterus has probably started in the surface epithelium and that when a gland-like arrangement is met with that it has taken origin in the glands themselves. The clear statement of the author as to whether a fibro-myoma of the uterus can undergo carcinomatous degeneration is to be welcomed. He has failed to find a single instance amongst his cases of adeno-myoma becoming malignant, and, as he says, to speak of carcinomatous degeneration of a myoma is a contradiction in terms. The very late stage of cancer of the body at which the glands become involved is a similar condition to that obtaining in cancer of the cervix. In nearly all the operable cases of adeno-carcinoma of the body met with no glandular involvement had taken place, and this accords with the experience of Winter. In four out of 500 cases of myomata carcinoma of the body has been present as well. In connexion with the diagnosis of cancer of the body of the uterus a clear account is given of the changes in the mucous membrane in cases of endometritis and similar conditions. In all cases of carcinoma of the uterus it is recommended that the tubes and ovaries should be removed as well, since in some of the cases, although in the early stage, the appendages were already involved. In a critical review of the rare cases of so-called squamous carcinoma of the body of the uterus it is noted that in only nine of 50 cases of endometritis was there any thickening of the epithelium resembling squamous epithelium. Of the recorded cases of squamous carcinoma of the body Dr. Cullen is only inclined to admit three—viz., those of Gebhard, Kaufmann, and Flaischler. The account of deciduoma malignum is mainly taken from Whitridge Williams's and Dorland's monographs on the subject, a detailed description being given of Whitridge Williams's case. Dr. Cullen is in favour of retaining the name "deciduoma malignum," and is of opinion that the clinical features are sufficient to distinguish it from sarcoma and carcinoma of the uterus. In cases of pregnancy complicated by inoperable cancer of the uterus Cæsarean section followed by Porro's operation is recommended; in operable cases vaginal hysterectomy or vaginal Cæsarean section. One of the most interesting chapters is that upon the clinical phenomena common to carcinomata of the uterus. The results of the operative treatment in the Johns Hopkins Hospital are given in detail. In only one case did recurrence occur other than locally. This patient remained well for more than a year and then suddenly the inguinal, axillary, and cervical glands became enlarged and she died 20 months after operation.

Of 61 patients operated upon for squamous-celled carcinoma of the cervix 13 were still alive in January, 1900, the period of time that had elapsed since operation varying from 10 months to six years and two months. In four cases more than three years had elapsed. The uterus was removed in six cases per vaginam, in five by the abdominal route, and in the remaining two combined vaginal and abdominal hysterectomy was performed. In 12 cases of hysterectomy for adeno-carcinoma of the uterus only two (16 per cent.) of the patients were known to be living—one five years and seven months after the operation, the other five years and three months. Of 30 cases of adeno-carcinoma of the body of the uterus 20, or 66 per cent., were still free from recurrence. Of these the period since operation varied from 11 months to six years. In 12 instances the patients had remained free from recurrence for more than three years.

In summing up the various analyses as to the causation of carcinoma, Dr. Cullen finds that heredity appears to have little influence, that trauma as produced by parturition has a causal relation to cancer of the cervix but not to that of the body, and that the weight of evidence is against the parasitic theory.

The numerous illustrations in the book are beautifully drawn and reproduced, and the whole work reflects the greatest credit upon all concerned in its production.

Elements of Human Physiology. By ERNEST H. STARLING, M.D.Lond., F.R.S., Jodrell Professor of Physiology, University College, London. Fourth edition, 8vo. London: J. & A. Churchill. 1900. Pp. 679. Price 12*s.* 6*d.*

WE are glad to welcome Professor Starling's well-known manual in a more imposing form. Like other treatises that have originally appeared in an unpretending fashion and have been found well adapted to the needs of the student it is undergoing a process of evolution that will, we fear, end in its being only serviceable to the teacher when it will be replaced by some more elementary work. As it stands, however, we can only speak of it as one of the best of the numerous handbooks of physiology that have recently appeared. It is written by one who has not only a very thorough knowledge of the literature of his subject but by one who has had large experience of practical and experimental physiology and who has written many original articles that have commanded attention. Professor Starling gives straightforward statements explanatory of each of the separate great functions of the body, illustrating them where illustrations are required for the comprehension of the text by diagrammatic sketches. Some of these are too coarse and hence misleading, as those, for example, of the blood corpuscles. He has avoided notes which only serve to distract the attention of the reader, especially if he be an inexperienced one, and he has introduced the names of authorities sparingly.

The first chapter, devoted to the Material Basis and the Sources of Energy of the Body, shows that 12 chemical elements enter into the composition of all living organisms. The names of these 12 are carbon, hydrogen, nitrogen, oxygen, sulphur, phosphorus, chlorine, potassium, sodium, calcium, magnesium, and iron. Four others are occasionally present—silicon, iodine, fluorine, and manganese. These are all found on the crust of the earth, and for the most part in a state of maximum oxidation and are devoid of potential energy. Plants, under the influence of the sun's rays, build up these elements into substances which can develop energy by combustion. The green parts of plants utilise the radiant energy of certain parts of the spectrum in the splitting up of CO_2, giving off the oxygen to the atmosphere and building up the carbon into complex compounds of which the earliest appear to be sugar and starch. "It is supposed," he continues, "that the first change which occurs is a formation of formaldehyde $CO_2 + H_2O = CH_2O + O_2$, and that this formaldehyde by simple condensation yields a carbohydrate of the formula $C_6H_{12}O_6$. The plant thus obtains a store of potential energy which it can utilise for the formation of still higher products or for the synthesis of such bodies as fats and proteids. All three classes of substances, proteids, fats, and carbohydrates, are built up together with salts and water to form the unstable material which as the chemical basis of life is known as protoplasm." The relations of animals to plants are then discussed and some of the numerous synthetic processes which they can effect are given. The remainder of this important chapter describes the theoretical mode of formation, the properties and the chemical characters of the proteids, fats, and carbohydrates. The chapters on the contractile and nervous tissues are highly instructive and embody the results of much research.

Napoleon is said to have maintained that a history of France must either be compressed into a single volume or expanded into 20. The same may be said of a history of physiology; the number of articles that have been written on almost every part of it, the number of experiments that have been made, often with contradictory results, is so enormous that one of two modes of treatment must be adopted: either the facts must be given with discrimination *in extenso*, as is done in such works as Hermann's, Richet's, or Schäfer's physiological treatises, or a succinct account must be attempted in which the impressions of one writer are set down in a dogmatic manner, and the student must accept the statements made without any clear comprehension of the grounds on which they rest. There can be no question of the relative interest attached to the perusal of works written on these different lines, especially in dealing with such a subject as physiology. If short, a book covering the whole field of physiology must be dry; if extended, it may be made highly interesting. As might be expected, Professor Starling everywhere gives the established facts in physiology in a very clear and logical fashion, and while it would appear in parts that he writes rather for the young physiologist than for the student of medicine, yet it must be remembered that a true study of physiology involves an accurate knowledge of organic chemistry.

A Manual of Modern Surgery: an Exposition of the Accepted Doctrines and Approved Operative Procedures of the Present Time for the Use of Students and Practitioners. By JOHN B. ROBERTS, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. Second Edition. London: Rebman, Limited. Pp. 850. Illustrated with 473 Engravings and eight Plates in Colour and Monotone. Price 21*s.*

THIS is the second edition of the above work, but as its title-page contains no date we are left in doubt as to when it was issued. The author tells us in his preface that many articles have been entirely rewritten and that the text throughout has been thoroughly revised, and therefore we are justified in thinking that it is intended to represent the views of the present day.

There is much to praise in the general arrangement of the volume and the descriptions are for the most part clear and concise, but we cannot help thinking that there is in many cases a lack of appreciation of the relative importance of the subjects dealt with. For instance, the account of a bunion and the description of lithotrity occupy approximately the same space—less than a page and a half each. There is also observable a tendency to indefiniteness of statement, for the author frequently employs the expressions "it is said" and "it is stated" without any indication as to his agreement or disagreement with these opinions, and when this occurs in the descriptions of treatment the student is at a loss to know what to think. What a student requires in a text-book is a clear indication of the best treatment, and a certain degree of dogmatism is not only justifiable but distinctly advisable. Regarded as a whole the book may be considered to be a very trustworthy guide to the student or practitioner, and there are really but few statements to which we could take exception. It is certainly a mistake, however, to speak of congenital syphilis as the "quaternary" stage of the disease, for the congenital variety of the disease in the child cannot be a "stage" of disease in the parent but is a distinct attack of the disease. Especially objectionable is this application of the name "quaternary" because it has already been applied to very late manifestations of the syphilitic poisons, such as locomotor ataxia and general paralysis of the insane. In the description of Colles's fracture of the radius the author says: "It is frequently designated by the name of one or other of those writers who have discussed it, but such nomenclature serves to confuse the student and to perpetuate erroneous teaching." We certainly fail to see how this applies to the use of Colles's name for this fracture, and we cannot perceive that the student is less likely to be confused by the use of the names "ordinary" or "classic" fracture which the author applies to it. Personal names frequently assist the memory in a remarkable degree, and where a particular condition has been associated for many years with a personal

name it is wise even in the interests of students to retain it. The use of proper names to designate diseases and signs and symptoms of diseases has been overdone, and no new appellatives of this kind should find their way into our scientific vocabulary, but perfectly well-established terms must be retained.

We agree with the author that the terms "intra-capsular" and "extra-capsular" as applied to fractures of the neck of the femur are not well chosen, but he does not appear to perceive that however they may be named there are two definite varieties of fracture of the femoral neck which differ in the mode of origin, in the treatment, and in the results. On page 536 is an illustration of a sling in which the hand is shown in a most uncomfortable position—namely, at a lower level than the elbow. For skin-grafting the author appears to prefer the older method, and says of Thiersch's grafts that "the pain is rather severe when the shavings are cut." This is not so if the shavings are really thin and include only the apices of the papillæ, and we are inclined to think that Dr. Roberts cuts these grafts too thick, especially as we notice that he merely states that "the shavings should not include the entire thickness of the skin," implying that they may include nearly the whole thickness. It is a pity that the illustration on page 529, representing dislocation of the jaw, is attributed to Ashhurst, for it is really taken from Fergusson's Practical Surgery, where it appeared more than 50 years ago.

The portion of the work that seems to us to be especially good is that dealing with the treatment of hæmorrhage, and we do not remember ever to have seen put more clearly the reasons for the correct treatment of primary and secondary hæmorrhage. We have been much pleased with many parts of the work and we consider it a useful addition to surgical literature.

Die Technik der Speziellen Therapie. Von Dr. F. GUMPRECHT, Professor in Jena. (*The Technique of Special Therapeutic Measures.*) Second Revised and Enlarged Edition. Jena: Gustav Fischer. 1900. Super royal 8vo. Pp. 354. With 182 illustrations. Price 7 marks.

PROFESSOR GUMPRECHT has undertaken the difficult task of writing a book the object of which is to enable students and practitioners to carry out "without further instruction" those clinical procedures and minor operations which are in every-day use. He supplies a great deal of that information about them which, as a rule, is only gathered *viva voce* from teachers in cliniques and tutorial classes. The obstacle to the success of such an undertaking lies in the fact that it is almost impossible within the limits of a book to remove the multifarious difficulties which perplex the student in connexion with these operations. Although we do not think that the author has altogether succeeded in his attempt there is no doubt whatever that he has written a very useful book and, judging by the demand for a second edition some 20 months after the publication of the first, one that has distinctly supplied a want.

The book is divided into sections according to the region affected. In each section the anatomy of the parts is explained concisely, the more important points being illustrated by diagrams. The instruments which are used and the method of their employment are described in detail and attention is directed to the accidents which are liable to occur during their use. A few references to the literature are appended to each chapter. The opening section deals with puncture of the skin for anasarca, phlebotomy, transfusion of blood, and saline solutions; another with the œsophagus and the methods of examining it; and a third gives minute directions for washing out the stomach and illustrates a variety of instruments employed for this purpose. In the chapter on Local Treatment of the Nose, Naso-pharynx, and Larynx Professor Gumprecht takes the average reader somewhat out of his depth—it will fall, for instance, to the lot of few practitioners to swab out the whole larynx—and at times he seems to forget the class of reader for whom he is writing. After a paragraph on the galvano-cautery of the hypertrophied inferior turbinated body he describes at some length the after-treatment with methylene blue advocated by Bresgen, a mode of treatment which is somewhat complicated for a beginner. The practitioner, moreover, will probably find that the good results frequently obtained by this method hardly compensate for the annoyance of occasionally seeing his patients with their faces or teeth stained blue. For the removal of adenoids the author anæsthetises only unruly children, and when an anæsthetic is required he recommends that the patient should be recumbent during its administration and should be raised to a sitting posture for operation. When gas and ether are employed as the anæsthetic there is no reason why the patient should be in the recumbent posture during the administration and so no need of sitting him up during the operation. When, however, chloroform is employed it is distinctly dangerous to change from the recumbent to the semi-recumbent or sitting posture; nor is it necessary in the case of dexterous operators. It cannot be too strongly insisted upon that patients who are given chloroform should be placed in the dorsal decubitus and under no circumstances raised to the sitting position.

In the chapter on the Thorax careful directions are given for tapping the pleural cavities, and special stress is laid on the importance of evacuating the fluid slowly. We are told that, as a general rule, 20 minutes should be allowed to a litre of fluid and that not more than one and a half litres should be abstracted at one time. While these rules admit of exceptions there is no doubt that serious risks are too frequently and needlessly incurred by rapidly emptying these cavities. In tapping the abdomen for ascites due to cirrhosis of the liver which is unaccompanied by much contraction, the author, following Dr. Flint and Dr. Cheadle, recommends early abstraction of the fluid and emphasises the good results which have been obtained thereby. The last section deals as fully as the limits of the work will allow with the examination of the urethra, prostate, and bladder, the different sorts of catheter are fully described, and sound advice is given as to their employment in the commoner pathological conditions of these organs.

The volume is one which the student and the practitioner will find of great value. Professor Gumprecht writes with admirable clearness and the illustrations are excellent; moreover, there is no other book of moderate size with which we are acquainted that covers the same ground.

A Treatise on the Diseases of the Ear, including the Anatomy and Physiology of the Organ, together with the Treatment of the Affections of the Nose and Pharynx which conduce to Aural Disease. By T. MARK HOVELL, F.R.C.S. Edin., M.R.C.S. Eng. London: J. & A. Churchill. Second edition. 128 Illustrations. Pp. 808. Price 21*s.*

THIS edition has been entirely rewritten since the first appeared in 1894, and in its present form it ranks amongst the best text-books on the ear and takes almost, if not quite, precedence of all modern works originally written in English. But it will be many years before Politzer will cease to hold the position that he now occupies as the authority on matters aural. The most noticeable omission in the present issue as compared with the former is the cutting out of the illustration of post-nasal adenoids which detracted not inconsiderably from the merits of the book. Among the most valuable additions are amplifications in the anatomy of the ear, the description of keratosis obturans, and a far more comprehensive and complete account of the operation on the mastoid antrum as described and modified by Ballance.

In dealing critically with a work of this class the fact must be borne in mind that it is more serviceable when giving, even in a dogmatic fashion, views at variance with the accepted ones, than when the writer from either lack of originality or confidence thrusts upon the public a *résumé* of the views of others. Mr. Hovell holds on some points views contrary to those held by numbers of well-known aurists, but when he does so he gives fully his reasons, and in our opinion thereby enhances the value of the book. The operation of removal of the ossicles in chronic suppurative otitis media is a case in point, as is also the therapeutical value of Eustachian bougies. In the former operation the author, when describing the measures to be adopted in the treatment of this form of otitis, has entirely changed his opinion, now definitely condemning the procedure which he formerly upheld.

In some parts the author in his determination to be clear runs the risk of being prolix, whilst in others, though this too is rare, the reverse obtains. We must mention a few omissions, in themselves trifling for the most part, but not immaterial in such a book as this. In the chapter on deaf-mutism there is no mention of Itard who in the second decade of the last century first demonstrated the possibility of teaching a certain proportion of these unfortunates to use their auditory nerves; again, no mention is made of the important dissections by Toynbee in relation to the connexions of the tympanic membrane with the periosteal linings of the middle-ear and external meatus. The absence of any description of chronic malarial deafness seems unfortunate, as there exists certainly a class of case presenting features differing from ordinary chronic adhesive or sclerotic middle-ear inflammation, while the symptoms occur in persons who have been afflicted with malaria. This work gives the experiences of 25 years of active work and close observation and will be equally of value to all students of aural surgery, however advanced.

Diseases of the Anus and Rectum. By D. H. GOODSALL, F.R.C.S. Eng., Senior Surgeon (late House Surgeon) to St. Mark's Hospital for Fistula and other Diseases of the Rectum, Senior Surgeon to the Metropolitan Hospital; and W. ERNEST MILES, F.R.C.S. Eng., Surgeon (out-patients) to the Gordon Hospital for Diseases of the Rectum, Assistant Surgeon to the Cancer Hospital, Brompton, &c. In Two Parts. Part I. London: Longmans, Green and Co. 1900. Pp. 340. Price 7*s.* 6*d.*

THE first 38 pages of this volume are devoted to a very full acount of the anatomy of the rectum and anus, and as it is well illustrated, it is likely to be of service to those who have not paid special attention to the subject. Fig. 2, entitled "the perianal region," is simply a reproduction of a photograph of a healthy perineum, and is surely unnecessary. The other matters dealt with in this part are abscess, fistula, fissure, and hæmorrhoids; while tumours, stricture, ulceration, and prolapse are to be contained in the second part. As to the general arrangement of the work, it may certainly be said that the various morbid conditions are carefully described; their etiology is fully discussed and a good account of the treatment to be followed is given. The illustrations are numerous and for the most part they are clear, but some of them fail to show clearly the lesion present.

The rules given for operation in fistula in ano are distinctly good and in this connexion we may mention some observations contributed by Dr. Hugh Walsham on the association of fistula with pulmonary phthisis. Clinically, among 891 cases of phthisis there were five cases of fistula in ano and two of ischio-rectal abscess, and of 133 post-mortem examinations in cases of phthisis only one fistula in ano was found, and Dr. Walsham expresses himself as strongly in favour of operation for this condition in patients suffering from pulmonary tuberculosis.

In speaking of the contra-indications of operations for piles the authors do not say one word as to the advisability of not operating in cases of portal obstruction. They do, indeed, say that "in those patients in whom there is a well-marked tendency to a plethoric habit of body ..... the removal of the piles is inadvisable," but no mention is made of the importance of the communications with the portal system. In the treatment of internal hæmorrhoids the authors advocate ligature and tell us that they never employ any other method. Their objection to every one of the clamp methods is on the ground that with the hæmorrhoid some healthy mucous membrane must be removed also, while they consider that Whitehead's operation leads to a severe loss of blood, is tardy in healing, and is liable to cause ultimate contraction of the lower part of the rectum. All these objections are imaginary and none of these evils result when operations are carefully performed.

It has often been said that at the present day medical men cannot write Latin prescriptions, and this statement seems probable when we find two hospital surgeons combining to write "fiat pulverem."

The Sick and Wounded in South Africa: what I Saw and Said of Them. By Mr. BURDETT-COUTTS, M.P. London: Cassell and Co. 1900. Pp. 280. Price 1*s.* 6*d.*

CARLYLE in his essay "On History" says: "The old story of Sir Walter Raleigh's looking from his prison window on some street tumult which afterwards three witnesses reported in three different ways, himself differing from them all, is still a true lesson for us." This story comes inevitably to our minds as we read Mr. Burdett-Coutts's plain straightforward statement. He has, he tells us in his preface, put down everything that he has said or written on the subject in public and we are quite certain that Mr. Burdett-Coutts has put down nothing but what he actually thought he saw. That the Army Medical Department was quite undermanned and that there was a deplorable amount of sickness and suffering we are certain is the case. But that to use Mr. Burdett-Coutts's own words (p. 221), "the things I saw and described were in a large measure preventable" we take leave to doubt—i.e., so far as regards Bloemfontein. That matters in the base hospitals improved after the publication of the famous Article IX. is, we think, without doubt, but with regard to matters at Bloemfontein, which undoubtedly were very bad, the whole question may be summed up in one word—namely, "transport." As we said in our issue of July 14th, 1900, the troops arrived at Bloemfontein physically exhausted and dependent for supplies upon a thin and precarious line of transport. On an occasion such as this was everything had to give way to the demands of the fighting line. We think, moreover, that the epidemic of enteric fever which so suddenly broke out on a large scale at Bloemfontein could not have been foreseen any more than the exceptional conditions at Paardeberg and Bloemfontein, which gave rise to it, could have been foreseen. We give Mr. Burdett-Coutts every credit for his statement, but further criticism of his words and writings must be left until we can deal with the just published Report of the Special Commission.

LIBRARY TABLE.

Atlas der Anatomie der Sternhöhle der vorderen Siebenzellen und des Ductus Nasofrontalis mit erläuterndem Texte und Bemerkungen über die Behandlungen der Sternhöhleneiterung. (Atlas of the Anatomy of the Frontal Sinus of the Anterior Ethmoidal Cells and the Nasofrontal Canal with Explanatory Text and Remarks on the Treatment of Frontal Sinus Suppuration.) By Dr. ARTHUR HARTMANN of Berlin. Wiesbaden: Verlag von J. F. Bergmann. Glasgow: F. Bauermeister. 1900. Price 16 marks.—Dr. Hartmann

has long since made for himself a name as an earnest worker and a lucid teacher, more especially in the field of otology; this Atlas will serve to bring his researches to the knowledge of those who have not been aware of his previous utterances upon the subject. The text is brief, the matter is clearly and concisely written, and the greatest attention has been paid to keeping things in their proper order and separate. The first part contains in chronological order quotations from various well-known German anatomists, with a critical *précis* of Killian's account of the embryology of the part. The author then tells us that the dissections depicted in the Atlas are characteristic examples selected from his collection, in order that the anatomical varieties may be shown to be due to the laws which influence the body generally and thereby the anatomy and the embryology of the part brought into line. He classifies the known irregularities of the sinus and frontal cells under the following:—1. Frontal sinus without frontal cells and without naso-frontal canal: (*a*) with a simple orifice either round or slit-like in the middle meatus; and (*b*) with a nasal orifice obstructed from below by the bulla ethmoidalis. 2. Frontal sinus and cells through which a naso-frontal canal is formed: (*a*) with the cells in a regular order; and (*b*) with the cells irregular. 3. Hernia-like encroachment on the frontal sinus. 4. Absence of the frontal sinus. These are all illustrated in the 12 plates, each of which contains, most beautifully reproduced, two dissections. The remarks on the operative treatment are thoroughly practical, and the work will be valuable as a handbook of reference to both anatomists and surgeons.

King's College Hospital Reports. Vol. VI. Oct. 1st, 1898, to Sept. 30th, 1899.—Dr. John Curnow continues his interesting historical sketch of King's College and of King's College Hospital. In the present section, amongst other information, Dr. Curnow recalls the part played by Professor Partridge in the trial of Bishop and Williams for the murder of Carlo Ferrari, whose body they afterwards tried to sell for dissection. Four obituary notices of old King's College men follow—namely, Sir William Priestley, of whom Dr. William Playfair contributes a sympathetic notice; of Joseph Lavies, famed outside his profession as an admirable amateur actor; of Captain Matthew Louis Hughes, R.A.M.C., killed in action at Colenso; and of Frederick Henry Corbyn. Original articles by members of the staff, with reports from the various departments of the hospital and school, together with a table of "What Old King's Men are Doing," complete the number.

Atlas der Nasenkrankheiten. Enthalten 356 Figuren in 475 Einzelbildern auf 38 Tafeln. (*Atlas of Diseases of the Nose.* Containing 356 figures of 475 separate drawings in 38 plates.) By Hofrath Dr. ROBERT KRIEG (Stuttgart). Stuttgart: Ferd. Enke. Glasgow: F. Bauermeister. 1900. First and second parts, 6*s.* each.—The Atlas of Diseases of the Larynx published in 1892 by the same author has served as a model for the present work, which is being issued in seven parts with five or six plates in each. These plates are certainly very well drawn, though, as in all coloured reproductions, the difficulty of obtaining flesh tints without making the price of a book prohibitive has not failed to leave its mark. The author has with few exceptions confined himself in the text to a short, and at the same time clear, description of each figure. On page 11 is a scheme of septal deviations, spherical deviations, and scoliosis nasi, which is an extremely useful and valuable addition. Dr. Robert Krieg gives the descriptive text in both German and English which will make the work of greater general value, though the translator is most obviously unable to throw off the fetters of German syntax as this quotation will show; "..... Do not belong from an embryonic point of view, as they are situated in the middle line of the azygos-formed frontal process, to the arrests of development of the (complete) facial clefts"; and there are numerous words translated too literally and without necessary freedom, as "unpaarig" by "azygos," and "blasenformige Deviationen" by "vesicular deviations." "Fensterresection" is not translated, neither is "Filtrum" nor "Hakenforsatz," though a literal rendering would in either case have been ample, as "window resection," "infiltration," "unciform process," and would at the same time have made the meaning comprehensible. Again, why should "Kartoffelnase" be translated and "Wulstlippen" not? The following are dealt with in the first two parts: dermoids and fistulæ, minor deformities, deviations of the septum, spurs and crests, deviations and deflections, and eczema and innocent growths.

Mrs. Beeton's Cookery Book. New edition. London: Ward, Lock, and Co. Pp. 312. Price 1*s.*—This is an excellent book. It is very full and yet very simple. Good cookery—we refer, of course, to the principles of the art and not to the higher flights—is perfectly easy if the cook will only take a little trouble, have a good fire, and use a little common sense. We are glad to see that Mrs. Beeton (p. 59) says that frying a chop or steak destroys both flavour and quality. Nevertheless, she gives a recipe (p. 110) for frying steak, but we suppose concessions have to be made to want of taste. One test of a good cookery book, to our minds, is the directions which it gives for making a baked custard pudding. There is nothing better when well made and nothing more abominable when badly made. Who does not know the nauseous concoction made of what are euphemistically called "cooking eggs," over-sweetened and baked in a quick oven, with the result of producing lumps of coagulated, stale albumen floating in a yellow watery liquid? This is what the average cook calls a custard pudding and offers to an invalid. Mrs. Beeton's recipe (p. 212) is good but not very clear, for we cannot make out whether she means that the milk when put into the saucepan with the sugar and the lemon is to be heated or no. Also, it is better to add the nutmeg after baking and not before, for in the latter case the aroma of the spice is driven off in the oven. The amount of sugar—a quarter of a pound to one and a half pints of milk—is surely excessive, but we are glad to see stress laid upon the necessity for a *very slow* oven. The book is worth much more than a shilling.

What is Life? or Where are we, What are we, Whence did we come, and Whither do we go? By FREDERICK HOVENDEN, F.L.S., F.G.S., F.R.M.S. Second edition with Appendix. London: Chapman and Hall. 1899. Pp. 308. Price 6*s.*—We like the author's choice of facts for the purpose of elucidating the great problem, however much we may dissent from his deductions. He has drawn largely from the works of Laing, Huxley, Graham, Winwood Reade, Ernst Haeckel, present-day scientists, and others, and thus has collated a selection of excerpts from a series of deep-thinking men who command the attention of every earnest student of the subject. The book is divided into Part I., The Statement of the Case; and Part II., The Evidence proving the Statement of the Case. The former occupies two pages, and the latter over 300. Ether as the one great agency by which atomic, molecular, or whatsoever force we like to call it is manifested is his creed. Then, what is ether? Ether is yet "behind the veil," and the author has succeeded in lifting the veil hardly high enough for gaining the merest glimpse of the vista beyond. The attempt to paraphrase "Consider the lilies of the field" is execrable. The poetry of the Bible is unassailable.

The Nineteenth Century: a Dialogue in Utopia. By HAVELOCK ELLIS. London: Grant Richards. 1900. Pp. 166. Price 3*s.* 6*d.*—"They were talking about a period that lay

in the dim and remote past—the nineteenth century of the Christian era." And the conversation was carried on by a youth of inexperience and an elder man, a student of the little known nineteenth century. This retrospective review of our present institutions and customs is hardly flattering to the intelligence of our cotemporaneous civilisation. As for these criticisms from Utopia, *ex uno disce omnes*. Speaking of our countrymen of the present time, the elder man remarks: "They revelled in filth, disease, and luxury. We may be sure they knew what suited them best, and their whole constitution and civilisation *was* born of that revelry." This philosophic "looking backwards" has this grain of comfort in it: it infers that our present mistakes and experiments constitute stages in the evolution of what Mr. Havelock Ellis regards as Utopia.

JOURNALS AND MAGAZINES.

THE *Practitioner* will certainly be a more useful periodical in consequence of the method which is to be adopted in its future numbers and which gives to the January number—in which it is for the first time employed—a cohesion and an easiness of comprehension which are wanting to a magazine of this kind where many diverse subjects are treated in more or less limited articles. One particular subject is to be the keynote of each monthly issue, and the more important articles will all bear directly from different points of view upon the matter selected. In the January number rheumatic fever is the subject. Dr. Arthur Newsholme writes upon the Epidemiology of Rheumatic Fever. His most important conclusions relate to its seasonal incidence, to its proclivity for urban rather than rural populations, and to the relation of dry subsoils to its infective origin. Dr. Newsholme's strictures upon the popular association of rheumatic fever with dampness and wet—due, he maintains, to the confusion introduced by "rheumatism," a condition which is probably unrelated to the specific disease—find a quaint contrast in the remarks of Dr. StClair Thomson a few pages further on, where cold and wet are regarded as etiological factors definitely known to be common to rheumatism and to sore-throat. In Dr. Thomson's article generally there is too little care taken to confine the term "rheumatism" to the specific acute disease which is meant to be under discussion in this number of the *Practitioner*. His otherwise valuable treatment of the relationship between rheumatic fever and the various forms of acute affections of the throat generally and tonsils in particular is in this way somewhat depreciated. Dr. F. J. Poynton's contribution deals with the Pathology of Rheumatic Fever and terminates with an account of the diplococcus discovered by Dr. Alexander Paine and himself, and already fully described in THE LANCET.[1] Dr. G. A. Gibson deals with the Effects of Rheumatic Fever on the Heart and makes interesting observations upon the endothelial cells of the vascular system and the possible effects of organisms and toxins in producing vegetations upon the cardiac valves. His article includes a short account of treatment, and, in common with the other authors who refer to the matter, he strongly insists upon the importance of prolonged rest after acute symptoms have subsided. Dr. A. P. Luff, who deals especially with treatment, lays down eight weeks as the usual period during which a patient the subject of an attack of acute rheumatism should be confined to bed—that is to say, if the heart is in any way involved in the attack. His remarks on treatment are sound and comprehensive, but include nothing particularly new. Cold baths are recommended for those unusual cases in which there is severe hyperpyrexia. Dr. George F. Still writes on Rheumatism in Childhood, and he emphasises what is already of course well known—the latency of symptoms. He mentions several interesting details which though really always indicative of rheumatic disease are only too commonly ignored and misinterpreted; such, for instance, are headache, pains in the side, and symptoms of hip disease. A Review of the Medical Sciences deals largely with rheumatic fever.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital, &c. Vol. IV. 1900. London: Henry Kimpton.—We have been able to speak very favourably of the earlier volumes of this Digest, and the present number is fully equal to those which have preceded it. Dr. C. G. Stockton of Buffalo has contributed an article on the Diseases of the Digestive Tract and the Allied Organs. Fremont's researches are described here on the value of drugs in increasing gastric secretion. Fremont found that both the total free acids and total chlorides were increased by many substances, especially by white wine and gentian, while strychnine and pilocarpine had much less effect. These are curious results and not fully in accord with clinical experience. A valuable discussion is that devoted to the subject of the relation of tetany to dilatation of the stomach; the connexion is undoubted but the explanation is by no means clear. Dr. W. T. Belfield of Chicago writes on the Genito-urinary Diseases in the Male and Syphilis. During the last few years it has gradually been recognised that gonorrhœa is not the sole cause of purulent urethritis and Dr. Belfield has given a very clear account of the present state of our knowledge on this subject. He shows that other pyogenic organisms besides the gonococcus may give rise to a purulent urethritis; that there is also a non-bacterial venereal urethritis, perhaps from the gonococcus toxins or other toxins; and lastly, that there may be auto-infection of the urethra from colonies of bacteria in the recesses of the genital canal. Dr. J. C. Bloodgood of Baltimore contributes the section on Fractures, Dislocations, and Amputations. A valuable portion of this article is that dealing with emphysematous cellulitis, and details of 22 cases are given which show that on early diagnosis depends the possibility of a favourable result. Dr. Bloodgood urges that in any recent wound with infection, coverslip preparations should be made from the fluid in the wound. If the diagnosis is made early and the destruction of the softs parts above is not extensive, free incisions with immediate continuous bath treatment should be tried, and if the general symptoms of infection are not relieved amputation should be done at once. The article on Coxa Vara is exceedingly good. Dr. J. Rose Bradford has written on the Diseases of the Kidneys, and we may specially mention the article on Uræmia. Dr. A. P. Brubaker has contributed an account of the recent progress in Physiology and Dr. T. H. Gerrish has written on Anatomy. The latter article contains a most useful account of the principles of a reformed nomenclature in anatomy. Dr. H. B. Baker's paper on Hygiene is valuable, especially that part dealing with the etiology of rheumatism. Dr. E. Q. Thornton has collected in a Therapeutic Referendum a number of prescriptions and therapeutic notes on many diseases arranged in alphabetical order. The publication is likely to prove of value to all who wish to keep abreast of the incessant progress in various branches of medical science.

[1] THE LANCET, Sept. 22nd (p. 861) and 29th (p. 932), and Oct. 20th, 1900 (p. 1136).

NEW WORKHOUSE INFIRMARY, SKIPTON.—The formal opening of the new infirmary of the Skipton workhouse took place on Jan. 12th.

THE LANCET.

LONDON: SATURDAY, JANUARY 26, 1901.

The Death of the Queen.

QUEEN VICTORIA is dead. Her country and its vast dependencies are plunged in grief, while nations which owed her no allegiance and which bear no love for her subjects are moved to respectful sympathy. During the past weeks there were rumours abroad which hardly reached the general public that all was not well with Her Majesty, and those best informed were aware of her failing powers, but were loth to give currency to apprehensions that in the course of events might not have been justified. To the mass of her subjects the reports that first found their way into the newspapers on the afternoon of Friday, the 18th instant, came as a shock for which they were wholly unprepared. They had learnt to associate old age with their QUEEN and yet to forget that old age of all things cannot last for ever. They knew that less than a month ago she had been among the first to greet Lord ROBERTS on his return from South Africa, they had perhaps observed that she had since granted him a second audience, and if the matter had rested in their minds it had remained as an impression of the vitality of their aged monarch, a proof of the keen and critical interest taken by her in the affairs of her kingdom and of her personal solicitude for those who served her. Directly, however, the news circulated that the QUEEN was suffering, its gravity was fully appreciated, for the bulletins that were issued in rapid succession during the following days left little room for hope. The end has now come and the empire on which the sun never sets is vainly trying to realise its loss. QUEEN VICTORIA lived to a greater age than any other King or Queen of England, and for a greater number of years than any other King or Queen she has occupied the throne. These are matters of figures and statistics. It is a fact beyond statistics that she lived and reigned in the hearts of her subjects as no other monarch has done. During the whole of her reign she had their respect, their esteem, and their sympathy; but during the closing years of her life she held their love in an ever-increasing degree, until it can fairly be said that loyalty to the Crown was merged in deep personal affection for its wearer.

The enthusiastic greeting which she received in 1887 on the occasion of the jubilee of her reign was eclipsed by the heartiness and unanimity of goodwill that followed her through the great procession of 1897, and that acclaimed her name on that occasion wherever her subjects were to be found. It might have been thought that the devotion of her subjects had reached its highest point on that day of rejoicing, but such was not the case. QUEEN VICTORIA knew how to draw her people still closer to her. Affectionate respect for her as a good ruler and loyal admiration for her as the fitting centre of a great historical pageant were both to be reinforced by the deep love that is born only of close personal sympathy. The nation was tried by war and the heart of the QUEEN bled with the hearts of her people. Acquainted with grief, she set her subjects a magnificent example of fortitude; while her anxiety, not only for the national cause, but for the well-being of every man and every relative of every man on the battlefields of South Africa, knit the heart and brains of the empire into passionate patriotism and fervent devotion to her person. Of her own motion, prompted by no advice from her Ministers, she visited in 1900 the one portion of the United Kingdom the goodwill of which towards the Crown was not altogether beyond question; and in Ireland she met with an unrestrained expression of loyalty, while her visit left the world wondering at the energy and courage which prompted her to undertake so formidable a public duty at her advanced age. Such incidents, too, as her visit to Bristol had an effect far beyond the limits of the locality selected for honour. Moreover, Her Majesty during the past year when in London drove freely among her subjects, selecting streets not usually visited by her and giving sufficient notice of her intention to enable all who desired to be there to see her. And the crowds that availed themselves of the opportunity testified with one voice to their love. No doubt the South African war, both in its origin and its developments, has drawn the inhabitants of these islands and their fellow subjects beyond the seas closely together, but the predominating factor in this union has been the evoking of a common and wonderful loyalty towards the QUEEN, whose subjects, alas, they no longer are. That she should live to see the war concluded and peace in her dominions would have been the first wish uttered by all had it been realised that her end was drawing near, but

although this crowning pleasure was denied to her, it is impossible that she should not have felt and rejoiced in the boundless devotion which the sad necessity of a bloody war called forth from her people.

The reign of QUEEN VICTORIA has been a great reign as well as a long reign. She saw her subjects in the United Kingdom alone increase numerically from 25,650,000 to numbers which the coming census is likely to establish as well over 40,000,000, and she saw the increase of their material prosperity as well in nearly every part of the kingdom. She saw as the result of Parliamentary reform House of Commons after House of Commons, each equally loyal to herself and her Crown but each more truly representative of the people which under her it governed, each more active in framing equal laws, in bringing justice to the door of the lowliest, and in protecting rich and poor alike from oppression and wrong. She saw established a system of education which has placed within the reach of the children of her humblest subjects knowledge which in the early days of her reign was beyond even the rich, and she saw accompanying the growth of humanising influences the diminution of crime and the institution of more kindly laws for dealing with the criminal. She saw the disabilities placed upon some of her subjects owing to their religious beliefs removed and the advantages of the great universities thrown open to all; she was served by Roman Catholics and by Jews upon her Privy Council, she had one Roman Catholic as her Home Secretary and another as her Lord Chief Justice, and a strict member of the Hebrew faith as her Solicitor-General and her Master of the Rolls. The progress of science and of medicine were revealed to her in her legislative measures, for she gave her Royal assent in due course to laws which were the natural result of scientific discovery applied for the preservation and protection of her subjects' health by means undreamt of when she ascended the throne.

If the changes that QUEEN VICTORIA witnessed at home were in the nature of peaceful revolutions she endured full measure of anxiety as a sovereign in the contemplation of foreign affairs. At every period of her reign—in Europe, in Asia, in Africa—her armies were engaged in struggles more than one of which might have resulted in national calamity, and she felt the strain of such crises even in the last years of her long life. Let us hope that such anxiety may have had its compensations, for Her Majesty saw her colonies increasing beyond the anticipations of the most sanguine prophecy, while she felt in the last years of her life the strength of their support and the overflowing warmth of their devotion to her person. And in all events during the 63 years of her reign QUEEN VICTORIA so bore herself that she was Queen in deed as well as in name. Her influence was felt in every part of her dominions with authority, notwithstanding the fact that she was never in collision with the will of her Ministers or of those whom her people elected to represent them in the carrying on of the Government. The thoughtful among her people have recognised, and will no doubt realise more fully as time goes on, the great political power of her venerable personality in the international episodes that at different times have threatened the continuity of peace in Europe.

More fully and more generally have they recognised the force of her personality in their homes. As the central figure in a court that has been dignified without austerity, as a wife, as a widow, as a mother, and as a grandmother, she has been watched by her subjects closely and accepted as a perfect type. In their QUEEN the English nation have had an example of domestic virtue which has had an influence upon social life not easy to limit or define. It has been an influence felt from the highest to the lowest, the extent of which even those subject to it may never have acknowledged. In hundreds of thousands of the humblest homes in the United Kingdom and in the colonies the portrait of QUEEN VICTORIA hangs, and in every one of those homes little children have been taught, and will be taught, for generations to revere her name not only as that of a great Queen, but as that of a good Queen. No one can estimate to what extent the beautiful private life of the QUEEN may have benefited the world by thus setting before it a conspicuous example of right living and right thinking.

To the PRINCE who succeeds to the vacant throne and to every member of the Royal Family of which QUEEN VICTORIA was the head we tender our respectful sympathy, as do all her bereaved subjects. We tender it to her sons and her daughters and to all those of her younger descendants, to whom throughout their lives she will be an example. It must be some consolation to them to know the heartfelt sorrow with which millions in all parts of the globe mourn for the QUEEN who has found her well-earned rest. They can rely upon the sincerity of the expressions of sympathy that are reaching them on every side. There is no lip-service in the universal mourning for QUEEN VICTORIA. The world weeps.

Reciprocity in Medical Practice.

THEORETICALLY we are all in favour of reciprocity between countries in the recognition of medical qualifications; but practically the realisation seems impossible. Two pamphlets lie before us, by Dr. EMIL AMBERG of Detroit, Michigan, which give a very interesting account of the position in the United States as to the recognition of the qualifications of one State by the medical authorities of another. It may seem to us now in the United Kingdom very curious to find one American State looking on the qualifications of a neighbouring American State as foreign diplomas and exacting from their possessor, wishing to practise, subjection to a fresh examination; and this, though it may be a matter of notoriety that the standard of examination for the diplomas which the stranger has is infinitely higher than that for the diplomas of the State in which he seeks the right to practise. But it is little more than 40 years since the medical authorities of one division of the United Kingdom looked with as much jealousy and disparagement on the diplomas of another division as if they were altogether foreign diplomas. The Act of 1858 abolished this discreditable limitation of qualification among us, and laid the foundations of a better understanding between the members of a great liberal profession and of a higher general standard of medical education throughout the country. Theoretically, we repeat, this principle is one that must have an ever-extending application. As the commerce of the world increases, as the languages of different nations become better understood, as civilisation and all its amenities extend, the recognition of scientific and professional accomplishment must have a wider and more generous recognition. But as yet the practical difficulties are immense, and the two pamphlets before us by Dr. AMBERG, describing the dissensions of the States in America, show us why the progress of this principle is so slow. Whatever the difficulties of international reciprocity we should expect none to be insuperable in the case of the citizens of one country, yet the holder of the licence of the Medical Board of one State in America is regarded in most of the other States as an unqualified practitioner and perhaps taxed, as an "itinerant physician," $50 per annum, as in the Territory of Alaska. The cause is not far to seek and the study of it will help us to see the practical reasons which ought to make every country careful not to settle so difficult a matter on merely sentimental grounds.

The great object of legislation in regard to medical qualifications in all countries is to secure competency in those who receive licences to practise. The only way to attain this security is by regulating the number of bodies having the power to grant qualifications, by depriving them of excuses for competing downwards in such work, and by supervising the work that they do with competent and independent inspection. The multiplication of medical colleges and corporations with power to grant licences, beyond all inspection and control by a supervising or central body, is the sure way to lower standards and to retard and to degrade medical education at the expense of the public. This is the unhappy state of matters in the United States which constitutes almost the despair of those responsible for American medical education, than whom there are none in the world more anxious to promote the advance of medical science in the interest of the people. The United States have a population of nearly 70,000,000 and their medical schools multiply like mushrooms. There are no less than 156 medical colleges, with 24,119 students, providing in the populated parts of the country a medical man to every 600 of the population. In addition to the colleges which, whatever their standard, do aim at a proper professional education, there are at the present moment in Chicago, and probably in other parts, institutions for the sale of bogus diplomas. Communications on this subject were made to the last meeting of the General Medical Council by the Privy Council, and the authorities in Chicago are doing their best to exterminate such institutions. But they exist, and the existence of them is frequently referred to by Dr. AMBERG or his correspondents. And the majority of the genuine medical schools are unsatisfactory. Most of them are private institutions in which the teaching is very inefficient. Boards, State and Territorial, are supposed to control their work by holding examinations, but, according to Dr. AMBERG and the universal testimony of all serious medical teachers in the principal States, this control is inefficient. The curriculum of one State differs from that of another as the standard of medical examination does, and, worst of all perhaps, there is a wide variety in the demand of different colleges in the matter of the preliminary education of their students. All this is matter of common knowledge and admission, but it is brought to light very fully in the pamphlets of Dr. AMBERG. His object has been to promote inter-State reciprocity so far as is consistent with the interest of the public, and especially so by stimulating the members of the profession in the various States to work for this purpose with the National Confederation of State Medical Examining and Licensing Boards. To this end he has put himself into communication with the profession and with the authorities intrusted with carrying out the rules governing the practice of medicine in the different political divisions. The answers of these authorities show that they are generally in favour of reciprocity but are afraid of its application while the conditions of medical qualification in the different States are so various and so unsatisfactory.

We heartily sympathise with Dr. AMBERG and his many earnest colleagues in their desire for such legislation as will give uniformity and efficiency to medical education in the United States and so will pave the way for abolishing all territorial limitations of qualifications. It would, of course, be well if the States that have inferior medical schools and examinations would recognise without reciprocity the diplomas of those States that are more exacting, while private schools granting degrees and diplomas, even if their attempt to maintain a decent standard seems genuine, had better be suppressed. The lesson to be drawn by us from the transatlantic position is obvious, for the difficulties so strikingly exhibited in regard to inter-State reciprocity are only an illustration of the larger difficulties of international reciprocity. Where there is no power of controlling medical

education or of inspecting medical examinations reciprocity is open to the greatest objections, which will become more and more apparent when the experiment comes to be tried. It is to be hoped that the Government of this country will not proceed too rapidly in this direction, or, indeed, proceed at all, without taking the General Medical Council into consultation as to the practical difficulties to be encountered.

The Indian and Colonial Addendum to the British Pharmacopœia.

IN the recognition of the employment of different drugs in different parts of the British Empire it might at first be considered that a retrograde step had been taken; in reality, however, it will be found that there is a distinct advantage in collecting in one official standard all that concerns the drugs likely to be employed by British subjects wherever located. The publication of the Indian and Colonial Addendum to the British Pharmacopœia shows clearly the trend of thought during the latter part of the last century and affords another hopeful sign for the future unification of our Empire. Of late years there have been many indications of an increasing attention to medical matters connected with distant parts of the Empire. Even before the anxieties in South Africa absorbed so much thought and energy there had been a wave of interest in tropical medicine from which certain hopeful results have already been obtained. It had been recognised that local study in our colonies and at the seats of different endemics might enlarge our conceptions of disease and that some preparation at home might facilitate such work. Meanwhile there were not wanting rumours to show that those responsible for the compilation of the British Pharmacopœia hoped to do their part towards welding together the colonies and dependencies by supplying information relating to the modifications of treatment which are frequently necessitated by local conditions.

The growth of the Pharmacopœia throws an interesting sidelight upon the history of medicine during the century, since it shows an increasing tendency to obliterate the local peculiarities of practice which formerly did much to hamper progress. The first step was the fusion of the different Pharmacopœias which were previously in use in England, in Scotland, and in Ireland, and the production of the British Pharmacopœia of 1864. Twenty years earlier a Bengal Pharmacopœia had been issued in Calcutta by order of the Government, and it was perhaps in relation to this work that in 1867 the preface to the new British Pharmacopœia stated that it was intended to afford to the members of the medical profession and those engaged in the preparation of medicines throughout the British Empire one uniform standard and guide whereby the nature and composition of substances to be used in medicine might be ascertained and determined. Although the Imperial scope was aimed at in 1867, this failed to afford universal satisfaction, since in 1868 a Pharmacopœia of India was prepared under the authority of Her Majesty's Secretary of State for India; this was edited by Dr. E. J. WARING, assisted by a committee appointed for the purpose. This book was avowedly based upon the British Pharmacopœia, and while affording all the information contained in that work which might be of practical use in India it combined with it certain supplementary matter intended to meet the requirements of the Indian Medical Department. One of the primary objects was the introduction of the indigenous products of India into European practice in that country; this was facilitated by the inclusion of much information relating to their medical properties and therapeutic uses. This work is practically the origin whence the present Indian and Colonial Addendum has developed, since it suggests that India yields efficient substitutes for some of the drugs which are in the British Pharmacopœia, while it speaks of the advantages of employing remedies which are at hand in the remotest corners of the Indian Empire, so that India may be to a certain extent independent of "costly imported articles." So far as India was concerned the protest made in 1868 by Dr. WARING'S Committee against the limitations of the British Pharmacopœia took this form. Some official drugs were not obtainable in India, some could not be imported, and for both classes there were efficient substitutes of native growth. What was true for India held good for many of the colonies, but in Canada the need of local modifications was rendered more urgent on account of the existence of the United States Pharmacopœia, which was to a certain extent a source of difficulty if not of danger. The difficulties arose from the dread of confusing the two standards, since there were differences in the percentage composition of many articles which bore the same name, and the dispenser might not uncommonly be in some doubt as to the intention of the prescriber. These details were obviously kept in view during the preparation of the British Pharmacopœia of 1898 which exhibited a marked attempt to secure greater uniformity in the standards of purity and a gradual approximation of pharmaceutical processes. The adjustment of differences will, however, require much greater interchange of opinion, and meanwhile the influence of American practice on medical work in Canada is sufficient to warrant the inclusion of several new drugs and preparations in an addendum of Imperial scope.

The idea of strengthening the bond of union between different parts of the Empire has long attracted the Pharmacopœia Committee of the General Medical Council. The late Sir RICHARD QUAIN took a deep interest in the subject and initiated many of the inquiries in the earlier stages. It was at one time hoped that the results might be incorporated in the issue of 1898, but this would have entailed delay and although numerous modifications were then recognised from tropical countries the introduction of new remedies was postponed. The late Dr. LEECH, who succeeded Sir RICHARD QUAIN as chairman of the Pharmacopœia Committee, extended the inquiries, formed a collection of Indian and colonial drugs, and performed numerous experiments, especially with mylabris, the beetle suggested as a substitute for cantharis. The work was far advanced at the time of his death, and the value of his share in it received touching recognition both in the preface to the Addendum and in the report of the Pharmacopœia Committee of the General Medical Council. Dr. LEECH was followed as chairman of the Pharmacopœia Committee by Dr. DONALD MACALISTER who threw himself into the task with so much energy that no delay in

publication resulted. It is impossible to mention all who have contributed to the issue of the Addendum. Various administrative bodies in India and the Colonies have, through Her Majesty's Privy Council, the India Office, and the Colonial Office, afforded valuable information which has been collated by the editor, Dr. JOHN ATTFIELD, who has shown discrimination and untiring labour in the editorial function. Dr. ATTFIELD has received much help on questions of pharmaceutical botany from Mr. W. KIRKBY of Manchester and Mr. E. M. HOLMES of the Pharmaceutical Society. The general supervision of the work has been in the hands of a committee of the General Medical Council, with the assistance of Dr. NESTOR TIRARD as secretary. All these gentlemen may well be proud of the result of their work.

Annotations.

"Ne quid nimis."

TEMPERANCE IN THE ARMY

THE prevalence of intemperance in the army, still an unfortunate fact, has lately occupied a place of more than its usual prominence in the columns of the daily press. One writer on this subject reminds us that there are over 100 licensed houses of one kind or other in Aldershot alone, almost all of which have been established since the camp was formed there. He strongly protests against a similar liberality in the granting of licences in other and newer military centres, and he advocates, wherever possible, a reduction in the excessive number of those already issued. He would encourage the growth of restaurants where first-class refreshments might be obtained but not alcohol, and he would have the barrack recreation-room develop into an institution really worthy of its name which at present it is not. These very sensible observations are fully endorsed by another writer who is also evidently conversant with the soldier's needs and his temptations. His suggestions as to the improvement of the recreation-rooms are highly practical. They provide for entertainments, for a spacious bar where beer can be sold, for a temperance refreshment-room, and for a reading-room—in fact, for a soldiers' club. He recognises that the great majority of young soldiers are disposed to be temperate and would remain so with a little judicious assistance of the kind above indicated. He condemns the present canteen system as antiquated and essentially mischievous and would have it abolished. He argues that any small additional expense incurred by the substitution for it of the proposed club would be fully repaid by the elevation of the whole tone of barrack life and the restoration to civil duties after their term of military service of a greater number of men who have not learned intemperance in the army. It is highly satisfactory to find that those who know the soldier best, from the Commander-in-Chief down, are thus willing to do battle with and for him against that vice which is truly his worst enemy. The balance of public opinion will certainly be found on the same side. Any rational scheme which will promote his sobriety may, we are assured, rely on the approval and support of the great majority of his fellow-countrymen.

THE TEACHING OF SCIENCE.

A DISCUSSION of the best methods of instilling a knowledge of natural science into the youthful mind is certain to be productive of good. There is much to be said against the present methods of education in regard to its scientific side. Unfortunately, an examination is regarded as a criterion of knowledge and so instruction is based upon the mere requirements of the examiner's sheet. What we want our teachers to understand is that the pupil does not so much want loading with facts as to have his faculty trained in the direction of extending his own powers of observation, so that later he may be able steadily and easily to acquire facts for himself. A movement is steadily gaining ground in this country which is directed towards improving our methods of scientific education so that eventually scientific knowledge may be more extensively applied to our industries. There can be no doubt that both the Germans and Americans where they outstrip us in the industrial race do so because they are alive to the importance of applying scientific knowledge to practical industry. As an inventive nation we hold the first place, but our inventions have been utilised almost wholly by other nations. As examples we may quote the great German aniline industry and the American industry for the manufacture of electric appliances. These and other subjects have been discussed during the past few days at a conference of science masters in public schools which was held in the rooms of the University of London at South Kensington. It is to be hoped that discussions of this kind will result in a better system of teaching science in our public schools for the sake of the industrial prosperity of the country.

WHAT IS "COGNAC BRANDY"?

IT is usually as a matter of chance that trade tricks and facts about adulteration come to the knowledge of the general public. The spread of knowledge as to the various substances from which beer is usually brewed forms a case in point. Some interesting information has lately been given at Dublin concerning the usual composition of brandy. A Kingstown grocer has just obtained damages from a firm of London merchants for supplying him with cognac brandy which was not of the quality that he ordered. The plaintiff stated that the spirit which had been supplied to him was unsaleable, and that one customer had returned a bottle with the complaint that he had been inadvertently supplied with benzoline. This was doubtless a pleasantry on his part, for Professor Tichborne gave evidence to the effect that the liquor was "patent stilled spirit." We must in fairness state briefly the defence which was set up. It appears to have been in part technical—that there was no contract, that the defendants had received no money, that no warranty was given, and that the brandy mentioned in the statement of claim was not that supplied by the defendants to the plaintiff. The most instructive part of the defence was contained in the evidence given by one of the defendants. He said that the liquor supplied was foreign brandy and was distilled in part from grape juice. In the trade it was called "cognac," but cognac made from Cognac grapes exclusively "did not exist on the market," and the cost price of it would be about 7*s*. per bottle. The jury found that the defendants had contracted to supply "cognac brandy, which is a blend containing a proportion of grape spirit," and that the liquor which they supplied was neither brandy nor what is known in the trade as "cognac brandy." The evidence given in this case is not very reassuring. According to the definition accepted or given by the jury cognac brandy is said to be a blend which must contain at least some grape spirit, but it does not appear to matter how small the proportion of this may be. There is no doubt that it has of late years been increasingly difficult to obtain good brandy, and for this reason, amongst others, whisky has in this country largely taken its place.

If the late Mr. Pickwick were to revisit his old haunts he would perhaps be more surprised at this than at the other changes which would force themselves on his notice. It ought, however, to be thoroughly understood that whisky cannot properly be substituted for brandy in all cases. Fine brandy contains in addition to alcohol a number of highly volatile ethers which have a strongly stimulating effect and which are eliminated without any known ill-effects and without causing the slightest derangement to the digestive system. It is much to be regretted that the *fin champagne* which was sent from France till about the year 1870 is now practically unobtainable. These liquors were not only pleasant to the cultivated palate, but, given judiciously, were most useful in many cases of sickness. Unfortunately nothing has yet taken their place. Readers who habitually follow the results obtained in our Analytical Laboratory will have noticed that our consulting chemist has often found reason to praise samples of brandy which have come from some of the English colonies. Analysis has more than once pointed to the inference that the spirit has been derived from grapes, but in practically all cases there has been a deficiency in the œnanthic ethers which are the life and soul of the ideal brandy.

EGYPTIAN VITAL STATISTICS.

IN the third and concluding part of the third fascicle of his work dealing with Egyptian vital statistics, including climate and meteorology, Dr. Engel Bey treats of mortality above the age of five years, and prefaces his remarks with the following interesting table:—

Annual Death-rate according to Age per 1000 living in each Class.

Name of city.	Cairo.	Alexandria.	Damietta.	London.	Berlin.	Paris.	Vienna.	Munich.	Moscow.
Period.	1889-90.	89-90.	86-90.	81-90.	90-91	89-81.	90-91.	90-91.	81-83.
Years.									
0 to 5 ...	145·0	130·5	63·9	68·2	104·7	119·2	119·3	157·2	275·2
0 „ 10 ...	90·2	86·7	35·3	39·1	59·9	63·6	68·3	87·8	156·3
5 „ 10 ...	10·3	10·1	7·1	5·9	6·0	10·2	8·4	8·5	17·7
10 „ 20 ...	9·1	8·5	3·8	3·3	3·1	8·0	5·7	3·6	7·2
20 „ 40 ...	13·8	11·6	?	8·6	7·0	13·2	10·3	7·6	13·3
40 „ 60 ...	24·4	24·2	?	28·0	16·7	22·0	20·2	18·4	28·2
60 „ *x* ...	109·5	118·4	?	91·9	63·4	67·7	67·4	70·9	78·3
0 „ *x* ...	39·9	39·0	25·6	20·3	21·2	25·6	25·6	26·9	34·7

In London the higher age-groups should be as follows: 20 to 45, 45 to 65, 65 to *x*. In Moscow when the deaths of foundlings are eliminated the rate for children under five years of age falls to 191·8. In the Damietta column the information is only partially forthcoming, probably on account of a typographical error, but from the figures that appear it is evident that the ancient Nilotic seaport still maintains its character for salubrity. In this connexion our readers will no doubt remember some articles which we published a few years ago[1] in which the superior healthiness of Damietta and Rosetta was ascribed to the fact that the inhabitants could not drink Nile water when the river ran low because it then became salt from admixture with the sea. They were perforce compelled to depend on a supply stored in *sahariq* or tanks when the Nile was in flood and when its waters were consequently still pure from a potable point of view. On this subject the following remarks of Dr. Engel in his present essay are noteworthy, for hitherto he has not formally incriminated the water-supply of Egypt. "While fully admitting the influence of heat and humidity on the organs of digestion we cannot doubt, I think, that abscess of the liver and dysentery as well as the gastro-enterites that so frequently are met with must be caused in part by the bad quality of the water—the Nile water—in the canals and wells which everywhere is polluted but not at all or only badly filtered. We must also hold the water-supply responsible as the main cause of the typhoid fever which is relatively so widespread amongst foreigners, the milk for consumption becoming infected through the water used for diluting it or for washing the vessels in which it is kept." In a general survey of his subject Dr. Engel concludes that so far as the native population of Egypt is concerned the mortality in all the age-groups above infancy is considerably higher than is that prevailing in Europe, but that amongst foreigners the limits of the latter are not exceeded. It is the Egyptian infant alone who survives in accordance with the Western scale, this happy result being due to the suckling of their offspring which is invariably practised by native mothers. Amongst children aged more than five years and adults up to 60 years the chief causes of death are phthisis pulmonalis, "typhic" fevers, dysentery, and affections of the thoracic organs. Above 60 years of age debility enters once more upon the scene as a frequent cause of death, carrying off the old people as effectually as the newly-born. Dysentery and respiratory troubles come next in order as prolific sources of mortality amongst the aged. As regards dysentery it is probable that other affections, such as enteritis and diarrhœa, are sometimes mistaken for it, but Dr. Engel is satisfied that the true disease is endemic in the Nile valley, being disseminated by means of drinking-water. Dr. Engel is also convinced of the occurrence of typhoid fever in native patients, a fact which he says has been disputed. That the affection is to be met with amongst European residents and visitors is unfortunately not open to doubt, although, happily, its ravages of late have been far less deadly than they were during the early years of our occupation. The usual number of deaths from violence in European centres, whether due to accident or to crime, is stated by Dr. Engel to vary annually between four and seven per 10,000 inhabitants, but in Egypt during the four years 1887-90 the average was 4·7, made up as follows:—accident, 4·0; crime, 0·66; suicide, 0·04. In Lower Egypt during this quadrennial period the suicides numbered 55 in all, or less than 14 per annum, but only 30 per cent. of the cases were indigenous. In Upper Egypt not a single case of suicide occurred.

[1] THE LANCET, Sept. 9th (p. 643) and Nov. 18th (p. 1274), 1893; and April 28th, 1894 (p. 1082).

THE WILL OF A GOOD PHYSICIAN.

THE will of the late Sir Henry Acland is interesting from its being the testament of one who was notable in many ways. Its concluding clause is as follows:—

"And now, with a deep sense of the mercy and goodness of God to me and mine through parents, children, and friends and by the saintly life of my dear wife gone before, I commit my soul to my Heavenly Father in the faith and love of Christ and hope for forgiveness of my shortcomings in my holy profession, and I pray that the faithful study of all nature may in Oxford and elsewhere lead men to the knowledge and love of God, to faith and to charity, and to the further prevention and relief of the bodily and mental sufferings of all races of mankind."

"In Oxford and elsewhere." The phrase is very characteristic of one whose life and thoughts were bound up with the ancient University and city by the Isis. One memorial of Acland's wish to perpetuate the connexion of Nature and Oxford exists in the Museum—a bible in stone devised by him in company with Ruskin as part of a plan to represent the Kosmos, the whole orderly creation,

in such a way as to make it intelligible to the student. Another clause in the will was to the effect that all his papers relating to his profession as a physician should be destroyed unread. This clause, while showing the deep reverence for his profession and for the duties which it imposed upon him which Sir Henry Acland felt, may be thought to be excessive in its observance of the Hippocratic oath. Some will hold that such clinical records might surely have been preserved, that accumulated evidence gathered together by a keen observer might be handed down for the benefit of future generations. But the clause shows the proper as well as honourable feeling which was characteristic of him who wrote it. No information which he had received in confidence could be imparted to another, however discreet. He alone could edit his clinical records, and this he did not do. It is not everyone who sees how strictly private such notes must be and how imperative it is that discretion should be used by those designing to publish any part of them. Not very long ago we had to comment adversely upon the incident of the sale of a number of hospital case-books after the death of a medical man who had held the post of physician to the Hospital for Women, Soho-square.[1] Such a gross breach of trust and of decorum could never have occurred if anyone had been on the managing staff of the hospital in question with Acland's nice sense of the duty of secrecy owed by the medical man to his patients.

PHARMACEUTICAL NOTES FROM THE WELLCOME CHEMICAL RESEARCH LABORATORIES.

FROM time to time reports are issued from the Wellcome Chemical Laboratories giving the results of the investigations into pharmaceutical questions undertaken at the instruction of the directors. Amongst recent publications of this kind we notice a contribution to the pharmacognosy of official strophanthus seed. As is well known, this drug possesses an interesting history. The plant was discovered in 1861 by Sir John Kirk, whose attention was drawn to it by its poisonous properties, the plant being the basis of the Kombè poison. According to recent inquiry it would appear that every histological character upon which the identification of the different varieties of Kombè seeds has hitherto been based is found almost without exception to exist in seeds obtained from one and the same pod. Previous histological conclusions, therefore, must be abandoned, as they were in favour of the identification of different varieties based upon distinctions no longer held to exist. Another interesting communication from the same laboratories relates to the composition of berberine phosphate. Pure berberine phosphate was obtained by acting upon berberine acetone with an excess of phosphoric acid and re-crystallising the product. The salt thus obtained was of a bright yellow colour and showed a composition in accordance with the formula $C_{20}H_{17}NO_4(H_3PO_4)_7$ with varying amounts of water of crystallisation. The same salt may be obtained by acting upon berberine sulphate with acid calcium phosphate. The preparation of mercurous iodide forms a subject of another note. The results show that mercurous iodide prepared by precipitation is quite uniform in composition and is sufficiently stable when properly protected. As is well known mercurous iodide is commonly prepared by triturating mercury with iodine, the final product invariably containing free mercury; and thus it is important to decide whether such a preparation, containing more or less free mercury, is preferable to the pure salt for medicinal use. The facts now available, however, are in favour of the pure yellow iodide being generally adopted. This interesting and instructive series of contributions is accompanied by some observations and suggestions relating to the chemistry of the British Pharmacopœia by the director of the laboratories.

[1] THE LANCET, April 8th, 1899, p. 976.

THE LANCET RELIEF FUND.

OWING to the absence from town of some of the almoners and the temporary indisposition of Sir Henry Pitman, the auditor, the annual meeting of THE LANCET Relief Fund was not held as customary upon the first Monday of the present month. The meeting will now take place on Monday, Feb. 11th. The report and balance-sheet will be published in the following issue of THE LANCET.

LEAD-POISONING.

IT is interesting to learn from the leading representatives of the china manufacturers in this country that they are quite willing to adopt fritted glazes in the manufacture of china ware. At the same time it is to be expected that the trade generally are averse to the elimination of lead altogether for the purpose. We have already pointed out that the adoption of fritted glazes would be just as satisfactory a solution of the lead-poisoning problem as the adoption of glazes containing no lead at all. We still, however, keep to the belief that as experience is gained leadless glaze will be found to be a perfectly satisfactory substitute. It must be remembered that the application of leadless glazes is quite in its infant stage. The opinion of experienced masters of such an old and beautiful industry as the manufacture of china must be respected. They alone know the practical difficulties presented by such a drastic change as the exclusion of lead altogether for the purpose of glazing ware. Nevertheless, we know that the industry has given rise to grievous injury to health to those engaged in it, and from this point of view the subject must be approached seriously, even if it mean the condemnation of the use of lead in pottery manufacture. We believe that the compulsory employment of "frits" is a remedy which will appeal both to the practical potter and to his employé. The adoption of leadless glaze would be quite safe to the latter, though it undoubtedly would seriously affect the interests of the former.

NEW YORK ACADEMY OF MEDICINE: REPORT OF THE LIBRARY COMMITTEE.

THE report of the Library Committee of the New York Academy of Medicine states that on Nov. 30th, 1900, the number of volumes in the library was 89,000, including 36,105 duplicates. The books added during the year, not including duplicates, numbered 3649 volumes. In the circulating department 871 books and 832 journals were issued to 194 readers. 11,520 readers have registered during the year in the reading-room, and probably many others have used the library but have not registered. The library is growing rapidly, the additions annually for the last four years being at least 3500 volumes a year. In 1898, when the library of the New York Hospital was given to the Academy, 7000 volumes were added without including duplicates. 991 journals in many languages are on file and added 1135 bound volumes to the shelves during 1900. Including the duplicates the natural growth amounts to about 5000 volumes, and at this rate there is only space left for five years more. More space for the library is urgently needed and it will be difficult to find this space in the present building. At present there are 13,430 feet of shelving available, of which less than 3000 feet are unoccupied, and 600 feet of shelving are needed annually for the natural growth in new books. The labour of taking charge of this large collection of books will require an increase in the

librarian's staff this coming year. More money is urgently needed, both for the purchase of books and for the running expenses. Truly "of making many books there is no end." The cry for more room is universal throughout the libraries of the world, and the output of books increases day by day. Especially is this the case with medical literature, and the United States are more prolific in this direction than any country. The subdivision of subject-matter has made the old text-book of medicine give place to elaborate "systems," published in 10 volumes or so, or else we have fully and carefully written monographs upon one disease. The mere literature of the youngest daughter of medical science—namely, bacteriology—almost requires a library of its own, and as for periodical literature, medical journals and magazines are showered abroad like the leaves in autumn. In many of these there is doubtless a great deal of chaff to very little wheat and as no library is capable of indefinite extension some process of exclusion will before long become inevitable.

THE EXTENSION OF THE BOROUGH OF WORTHING.

THE growth of our urban, and the depopulation of our rural, districts is one of the greatest problems of modern life, and the exceptions to this rule are often more apparent than real. As a matter of fact, however, in the proximity of our large towns the rural districts in no sense suffer from depopulation, and vigorous efforts are sometimes required to prevent the population from being distributed in a manner inconsistent with healthy urban conditions. There must obviously be some limitation to the aggregation of population which can be properly administered from one centre by one administrative body, and perhaps in certain cities in the world such limitations have already been reached. But, conversely, there are obviously great disadvantages, more particularly from a public health standpoint, in the several parts of what is structurally a single town being administered by multiple authorities. This phase appears to have been already reached in Worthing, a considerable portion of which town is situated outside the borough proper, and in the rural parishes of West Tarring and Broadwater. Originally the villages bearing these names were separated from the town of Worthing by a stretch of open country, but the increased population has resulted in covering the area with habitations, and Worthing is now seeking powers to embrace both parishes within its limits. The general merits or demerits of the proposal will doubtless soon be fought out by means of a public local inquiry, but from our point of view, that of the public health, there are sundry reasons which must be held strongly to support the consolidation scheme. The rural district council administering the affairs of what may be termed the towns of West Tarring and Broadwater are hardly likely to pay as much attention to these two parishes of the rural district as their importance demands. Indeed, rumour has it that at times meetings of the rural district council are so poorly attended that a quorum is not forthcoming. Moreover, the fact that the offices of surveyor and inspector of nuisances are occupied by one and the same individual is sufficient to indicate that no very adequate supervision can be maintained over the erection of new buildings and the sanitary condition of old buildings, and we should not be surprised to hear that the roads and footpaths are not quite up to urban standard and that the lighting is bad. Houses, too, which are within a few feet of the sewers are said not to have been connected with the sewers owing to the absence of proper administrative action. As regards the control of infectious diseases the people of the rural parishes seem to be dependent upon the goodwill of Worthing; and it is, perhaps, in accordance with civic nature that Worthing should give preference to the infectious sick of its own district. In all these directions, as, indeed, in many others, there would seem to be advantage in the extension of the borough in such fashion as to focus the control of infectious diseases, the water-supply, the sewerage, and the household drainage, while in the matter of the investigation of outbreaks of disease, whether water-borne or not, the concentration of the notifications into one office cannot fail to be of value. We expect that these facts will have some influence with the Local Government Board in their determination.

MR. SAM LEWIS'S BEQUESTS TO CHARITY.

WE are happy to learn that general and medical charities will benefit largely under the will of the late Mr. Sam Lewis. The Prince of Wales's Hospital Fund for London will eventually receive a quarter of a million from the estate of the deceased money-lender, and many of the principal metropolitan hospitals have also a separate interest in the future disposition of his enormous wealth. Mr. Sam Lewis was a remarkable man. He was a usurer who conducted his business with such scrupulous honesty that he gained the real regard of his clients. Money-lending must always be a nasty trade, for it thrives on the failings of the weaker section of society and cannot allow scope for much kindness of heart. A money-lender who was moved to disregard business precautions out of sympathy with his clients' stories would in a few hours have no money to lend. Mr. Sam Lewis did his best to show that usury can be run on fair lines. He took large risks and exacted large profits, and the value of his estate shows that he neglected no means to ensure these profits accruing to him. But he received only what he compounded to receive. And in his disposition of his property he has displayed the generosity which he was obliged to suppress in his purely business relations.

ARSENIC IN BEER.

THE Manchester and Salford Trades and Labour Council at a meeting last week passed the following resolution:—

"That, in view of the serious consequences which have resulted from the sale of unwholesome and poisonous beer, this council is of opinion that it is absolutely essential, in the interests of the public, that the Government should at the earliest possible moment promote such measures in Parliament as will ensure that only pure and wholesome beer shall in future be sold to the public throughout the country. This council is further of opinion that as the health and lives of the public are involved in this question it is the duty of the Government to proceed with legislation at once upon the subject, without waiting for any report of any Royal Commission, as there is already ample evidence that very many people have of late been injured and a number killed through drinking poisoned beer, and the protection of the public demands immediate legislation without the delay which attends the proceedings of a Royal Commission."

This is exactly the view which we expressed in a leading article last week and we heartily congratulate the Manchester and Salford Trades and Labour Council on their admirable and sensible resolution. We have already pointed out that the use of malt substitutes is more a matter of expediency than economy. Indeed, as is pointed out in a letter in the *Times* of Jan. 22nd by Sir Walter Greene, who has had a large experience of practical brewing, it would appear that invert sugar may cost nearly 1*s.* per quarter more than barley malt. Whatever the economic considerations may be, the introduction of arsenic into beer must be effectually stopped. The inquiry at Manchester was concluded this week and the verdict is a comprehensive censure on all those concerned. The jury agreed that death had been caused by arsenical poisoning

and they returned an open verdict with a rider censuring brewers, sulphuric acid makers, and chemists alike for carelessness. The reports from the medical officers of health of the counties affected by the epidemic are coming to hand. We have received that of Dr. G. Reid, medical officer of health of the county of Stafford. According to this report 667 cases were traced to arsenical beer poisoning and these had occurred in 25 districts. The report is accompanied by a statement of the county analyst, Mr. E. W. T. Jones, who found that of 140 samples of beer analysed 15 were decidedly arsenical and seven slightly so. We note with satisfaction that the machinery provided by the Sale of Food and Drugs Act is being set in motion and followed by reports of successful prosecutions on all sides. What purpose is served by waiting for the ponderous proceedings of a Royal Commission?

THE SANITARY INSTITUTE LECTURES.

THE thirty-first course of lectures, with demonstrations, for sanitary officers will be delivered during February, March, and April next at the Parkes Museum, Regent-street, W. In the syllabus it is announced that Dr. E. J. Steegmann will deal with Mechanical Physics on Feb. 1st, 4th, and 6th, while Dr. J. Priestley will discourse on Sanitary Law on Feb. 8th, 13th, 14th and 15th. Dr. H. R. Kenwood will take for his subjects "Infectious Diseases," "Methods of Disinfection," "Water Pollution and Purification," and "Elementary Statistics" on Feb. 25th and 27th and March 1st and 4th respectively. The Signs in Health and Disease in Animals Destined for Food will be considered by Mr. W. Hunting, F.R.C.V.S., on March 29th. Dr. E. Petronell Manby will lecture on the Appearance and Character of Fresh Animal and Vegetable Foods, dealing at the same time with methods of preservation, on April 15th. Among the inspections and demonstrations in connexion with this course Mr. A. E. Harris will conduct a party over the disinfecting station at Islington on March 2nd and Mr. James King, M.R.C.V.S., will give a demonstration at the Metropolitan Cattle Market on April 15th.

THE SCOTTISH POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

THE annual report of this association, which we published in THE LANCET of Jan. 19th (p. 204), affords proof that the members are alive to the necessity of united and energetic action in order to accomplish a real reform, or, indeed, any improvement at all, in the terms and character of Poor-law medical work in Scotland. It is especially satisfactory to note that they realise that the fundamental condition of all such improvement is some legal assurance of security of tenure of office. So long as Scottish Poor-law medical officers are liable to dismissal for no assigned reason, on the action of a section of the parish council, and possibly for faithfulness in the discharge of their official duties, so long is it vain to expect any energetic or effective agitation for the removal of grievances. The report tells us that the finding of the Committee that the initial step in reform must be the securing fixity of official tenure has not given universal satisfaction to members of the association in the Highlands and islands. But members in remote parts will do well to trust those more centrally placed as to the best means of securing the ends which all have in view. Inadequate salaries, inadequate holidays, and the withholding of the whole or part of special fees are some of the special grievances which call for urgent redress. Some of these practices are inconsistent with the existing law and official rules for the guidance of parish councils and could not resist the earnest protest of a united and independent profession. Unfortunately the profession is not independent, and least of all in the very remote parts where grievances are most glaring and acute. We counsel unanimity in the support of the association, especially in its efforts to secure protection to medical officers against all capricious and unreasonable dismissals. When this reform is obtained others will follow. No time should be lost if anything effective is to be done in the coming session of Parliament.

CONGENITAL TYPHOID INFECTION.

IN the *Journal of the American Medical Association* of Dec. 29th, 1900, Dr. George Blumer relates a rare and important case of typhoid hæmorrhagic infection, probably congenital. About nine cases of congenital typhoid infection in which the diagnosis was proved bacteriologically are on record. All the cases occurred in children born when the mother was suffering from typhoid fever. In many the birth was premature. In three cases abortion took place about the fourth or fifth month, in two about the eighth month, and in two the children were born at term. Most of the children were born dead, but three lived nine hours, four days, and five days respectively. In most of the cases in which the child had reached only the fourth or fifth month the necropsy was entirely negative and the diagnosis rested on the bacteriological examination. In some of the later cases definite macroscopic lesions were present, though in all except one the intestines were spared, and in that one only a single solitary follicle was involved. The disease took the form of a general infection. The most constant lesion was slight enlargement of the spleen. Other lesions were slight icterus (two cases), hæmorrhages into the skin, liver, or kidneys (two cases), and slight swelling of the mesenteric glands (one case). The condition of the placenta is recorded in four cases. In all it was normal, but typhoid bacilli were found in it when it was examined bacteriologically. Typhoid bacilli were present constantly in the spleen and frequently in the blood, occasionally in the lungs (two cases), kidneys, and mesenteric glands (one case), and liver (one case). Dr. Blumer's case differs from those previously reported in that the mother was in good health at the time of birth. But she had an acute illness with remittent fever four and a half months previously which confined her to bed for 21 days. Presumably she suffered from typhoid fever, for she resided in a non-malarious district. A female child was delivered with forceps after a difficult labour. On the fourth day the infant had a slight convulsion after nursing. At each subsequent nursing she became rigid, as if in pain. On the fifth day there were spots of blood on the diaper. The amount of blood lost gradually increased until on the sixth day it became alarming. The vagina was packed with cotton, which was soon expelled with large clots of blood. Examination revealed an eroded cervix as the source of hæmorrhage. This was cauterised with nitrate of silver and the vagina was again packed. But the cotton was soon again expelled and vaginal hæmorrhage continued until death, which took place on the ninth day. Before death there were slight bleeding from the gums and a petechial eruption on the forehead. There were slight elevations of temperature. At the necropsy the mucous membranes were very pale. The mesenteric glands were all red and hæmorrhagic. The liver had a mottled, reddish-yellow appearance, and looked as if it had been boiled. On section it was very cloudy. The kidneys showed a few cortical hæmorrhages, and the bladder one large submucous hæmorrhage and numerous small ones. The vagina contained clots and showed two submucous hæmorrhages. The uterus was four centimetres in length and much dilated. Above the internal os was a blood-clot of the size of a pea.

A strip of endometrium one centimetre wide was intensely hæmorrhagic. The solitary follicles in the ileum and large intestine were swollen and some of them contained hæmorrhages. Microscopically, the liver cells were swollen and fatty, and the renal epithelium was swollen and granular. In the intestinal follicles the lymphoid cells had partly disappeared and were replaced by large epithelioid cells; in stained sections short bacilli were seen. The endometrium showed cell proliferation and hæmorrhages. Cultures from the heart's blood, liver, and kidney were negative; cultures from the colon, lung, umbilical cord, bile, and spleen yielded the typhoid bacillus. The septicæmic character of the disease is characteristic of congenital cases and hæmorrhages are common in them.

A DANGEROUS ECONOMY.

A CUSTOM of the City more to be honoured in the breach than in the observance was explained at the Guildhall police-court the other day by a police-inspector and seems to have been new to the presiding alderman. It consists in the police refusing to summon a medical man to examine a prisoner who denies being drunk when charged unless he or she is able to produce 7*s.* 6*d.* to pay the necessary fee. In the case in question an inspector explained that the difficulty lay in the fact that if the person desiring to be medically examined did not pay the fee the liability would fall upon the ratepayers. We have no doubt that it would, but the solicitude of the police on behalf of the pockets of the public seems here superfluous. The rate would, we conceive, hardly have to be materially increased even if a large proportion of the drunk and disorderly persons charged in the district insisted upon seeing a medical man. That any large number of them should so insist seems improbable, seeing that it would always be possible to inflict a heavier penalty upon the prisoner who had perversely and out of pure malice chosen to give unnecessary trouble, and we are not without a suspicion that it is the anxiety to avoid extra trouble rather than the dread of falling into extravagance that has caused the restriction to be imposed to which we have called attention. The dangers and hardships arising out of such a restriction fall exclusively upon innocent persons. We confess that we have no great confidence in the diagnosis of a policeman, be he constable, sergeant, or inspector. We do not blame him for it; his education is not gained in a hospital, and an additional difficulty is thrown in his way by the charity of the man in the street whose first impulse is to administer a stimulant to anyone suddenly afflicted with illness. A person who faints in public may, even though he be a teetotaler, have spirits poured down his throat and spilled over him until he reeks of them. Then he comes into the hands of those who arrive at their conclusions by the simple process of following their noses. They may be right in nine cases out of ten, but in the tenth case the person may die in a police-cell from want of proper attention.

MALARIAL FEVER AT TÁI PÓ NEW TERRITORY, HONG-KONG.

IN November, 1900, His Excellency the Governor of Hong-Kong instructed two medical officers, Dr. T. M. Young and Dr. J. C. Thomson of the Hong-Kong Medical Civil Service, to make an inquiry into the marked prevalence of malarial fever at Tái Pó, New Territory. The report of these officers to Mr. John Bell, acting principal civil medical officer, has been published as a Government notification from the Colonial Secretary's office, Hong-Kong, and bears date Dec. 6th, 1900. From Sept. 4th to Nov. 12th, 1900, there were caught 309 mosquitoes, of which 40 per cent. were anopheletes and 60 per cent. were culices. On Nov. 12th, the day of their arrival, however, the proportions of anopheletes caught had arisen to 60 per cent. But while during October there were 17 cases of fever occurring among the police there was only one in November up to the 15th. Dr. Young and Dr. Thomson attribute the fall in the number of cases which occurred during this period, which coincides with the second rice harvest, to the "adoption of vigorous prophylactic medication with quinine on two days successively at intervals of seven days." A search was made for the larvæ of anopheles, and these larvæ were found abundantly in the narrow ditches around the upper paddy fields and also in a sluggish stream into which the paddy fields drained. Ten children were brought from the nearest village to the police station who willingly yielded drops of blood at the rate of five cents per drop. In 50 per cent. of these the malaria parasite was found, two cases being of a benign type and three malignant, while all five children proved infective to anopheles feeding upon them. With regard to prophylaxis Dr. Young and Dr. Thomson have no alternative but to recommend "the acquirement and reclamation or efficient drainage of all the paddy fields within a radius of 250 yards from the foot of the hills on which the houses (of the police station) stand." Permanent buildings should also replace the mat-sheds at present used by the civil staff. The buildings should be two storeys high, residential quarters to be only on the upper floor, and the site suggested for these buildings is an island about 900 yards east of the present police station.

A MODIFICATION OF FLECHSIG'S METHOD IN THE TREATMENT OF EPILEPSY.

Dr. E. Meyer and Dr. C. Wickel have contributed an article on the above subject to a recent number of the *Berliner Klinische Wochenschrift* (No. 48, 1900). The work was carried out at the Psychiatric Klinik of Tübingen under Professor Siemerling, with a view to find, if possible, a more satisfactory treatment for cases of epilepsy than the method lately proposed by Flechsig. The plan of Dr. Meyer and Dr. Wickel is to begin the treatment with opium alone, commencing with small doses—e.g., five centigrammes three times a day, which are gradually increased until in about six or seven weeks the dose is nine centigrammes. This maximum dose is given only for one day, after which a bromide mixture is substituted for it—viz., potassium bromide one part, sodium and ammonium bromides each one part, the dose of the mixture being six grammes. The doses of the bromide mixture are now steadily increased till in a week they reach nine grammes per dose. This amount is the maximum dose, and it is continued for a long time and until definite improvement occurs. Under this method of treatment it is necessary that the digestive functions and the functions of the skin should be carefully regulated. Thus, during the opium treatment the patient should have cold baths of short duration (10 minutes) daily at a temperature of 24° C. After a day or two the temperature of the bath should be lowered 1° and the duration of the bathing limited to nine minutes, the next day the duration of the bath being eight minutes and the temperature 22° C. This process should be continued for a week. When the bromide treatment begins the temperature of the bath and its duration should be the same as at the commencement of the opium treatment. Diet should be carefully regulated so as to be light and easily digestible, all nitrogenous foods or beverages, such as beef, coffee and tea, meat broths (which generally contain nitrogenous extractives), acids, sauces, and the like, being avoided or reduced to a minimum. Clinical histories are given by the authors of several cases (10 in all) in which the above lines of treatment were carried out for long periods of

time with the result that the convulsive attacks were diminished in frequency and the patients were maintained in a condition of good health, both mentally and bodily. The gradual increase of the dosage of opium, followed by the administration of the bromide mixture, together with a systematic regulation of baths and diet, constitute the essentials of the new treatment.

THE PLAGUE IN SYDNEY.

DR. J. ASHBURTON THOMPSON, President of the Board of Health of New South Wales, has sent in an official report on the recent outbreak of bubonic plague in Sydney. The report is a voluminous and complete one, including clinical, pathological, and bacteriological records by Dr. A. E. Salter, in charge of the Maritime Quarantine Hospital, and Dr. F. Tidswell, the principal assistant medical officer of the Government. Between Jan. 19th and August 9th, 1900, 303 persons were attacked with the disease, of which number 262 were available for clinical observation. The metropolitan area alone was affected, its population being estimated at 436,000, including about 4000 Chinese and a few coloured people. Among the whites 293 cases occurred and 10 among the Chinese. The disease attacked four times as many males as females. The deaths numbered 103. More than half of the cases occurred between the ages of 15 and 35 years. Cases occurred in all parts of the metropolitan district. Haffkine's prophylactic serum was injected into 10,700 people, and among those thus inoculated 13 suffered from plague but recovered after mild attacks. The Yersin-Roux serum became available on May 13th, but its use did not interfere with the natural course of the epidemic. The opinion provisionally formed was that the serum had antitoxic powers, but in its present state could not be relied on as an active curative agent. The infection had its full virulence at the beginning of the epidemic. The only change noticed was an enfeeblement which began about May 1st. It took seven weeks to furnish the first 100 cases, four weeks to furnish the second 100 cases, and 13 weeks elapsed before the 303rd case was recorded. Dr. Thompson discusses the mode of infection in some detail, and deduces the following conclusions from his study of the epidemic:—1. The disease was not directly communicated from the sick to the well—in other words, was not catching. 2. It was not communicated in any important degree, at all events, from the sick to the well by mediate channels (clothes, household goods, merchandise, excreta). 3. The infection attached to localities and spread to others adjoining and continuous with that in which it was first manifested. 4. It also spread in a fashion which betokened the possibility of its being transported mechanically from an existent focus to a considerable distance and there, in its new situation, initiating an independent focus. 5. In the buildings in any infected locality cases occurred irregularly and showed no special proneness to occur in adjoining houses. 6. When the occurrence of one case among the inhabitants of a building showed that the infection was present in it secondary cases rarely followed. Irregularity of incidence on houses was accompanied with irregularity of incidence on the inmates. 7. An epizootic disease among rats preceded the first case which occurred in man. 8. This epizootic disease was plague. 9. The area over which the epizootic extended was practically co-extensive with that on which cases of plague in man were observed. 10. The epizootic died out as far as can be learned at the same time as the epidemic ceased. 11. The epidemic was caused by communication of the infection from rats to man. On the question of prevention Dr. Thompson says: "The best protection against epidemic plague lies in sufficient sanitary laws, persistently and faithfully executed by local authorities during the absence of disease, and that no other general scheme of defence is practicable." He, however, lays great stress on the importance of securing immunity from rats. The best possible way to gain this result is, as far as possible, to prevent the landing of rats from vessels, and to build houses in such a way and to keep premises in such a cleanly condition as to make it difficult for rats, in the first place, to enter and, in the second place, to live if they do enter.

FRIEDRICH NIETZSCHE: A STUDY IN MENTAL PATHOLOGY.

THE recent death of Nietzsche has been followed by the usual notices and appreciations of his life and work which nowadays mark the close of every brilliant career in literature or philosophy. Dr. W. W. Ireland, in the January number of the *Journal of Mental Science*, deals with the life and writings of the philosopher in a critical spirit, seeking to trace the sources from which sprang many of the extraordinary doctrines and precepts inculcated by Nietzsche. It is shown that a disposition to insanity had been inherited for several generations both on his father's side and on that of his mother. In boyhood Nietzsche was fond of solitude, shunning other children, and was "nice" in his habits. His ways were pious and studious, and he disliked the noisy drinking and smoking habits of the students at the Universities of Bonn and Leipsic where he studied. He manifested great ability, and at the age of 25 years he was appointed Professor of Pathology at the University of Basle. He had musical tastes, was a friend of Wagner, and had a keen appreciation of poetry. When the war of 1870 broke out Nietzsche, then a young man of 26 years, served in the ambulance corps, but contracted diphtheria and enteritis and was invalided home. He never thereafter quite recovered his health and was a martyr to migraine. "He used to suffer every two or three weeks from attacks of migraine, sickness, narrowing of the field of vision, and sleeplessness, often accompanied by mental distress." In the summer of 1875, after an unusual time of suffering, he wrote to a female friend: "Such as we (you and I) never suffer in the body alone; all is intergrown with mental crises." In 1876 Nietzsche got a year's leave to recruit his health, but his illness did not forsake him, and in the beginning of 1879 he resigned his professorship and retired on a pension. After this he led a wandering life, chiefly in Switzerland and Italy. His illness became worse and he suffered from much mental distress as his eyesight was also failing him so that he had to give up reading. During the period of enforced abstinence from reading he relates how "the undermost self, once smothered and stilled by continuous reading, now slowly awakened, bashfully, doubtfully, and at last spoke again, ... and this 'return to myself' was the highest kind of recovery." His physical health now began to improve and he began to write. He devoted his thoughts to philosophy, eschewed the religious faith in which he had been brought up, and inclined at first to Schopenhauer. His attitude soon after became more independent, even belligerent. "My mode of thought," wrote he, "requires a warlike mind, a desire to give pain, a pleasure in saying No." He attacked and denounced the besetting weaknesses of the day. He compared himself to a flame: "I glow and consume myself; light is all that I produce, blackened ashes all I leave." Nordau, analysing Nietzsche's writings and style, says that his language is like that of a madman with flashing eyes, wild gestures, and foaming mouth, and proceeds to show its resemblance to "writings of a similar order of thought and diction" emanating from the insane, a denunciation which is too sweeping. His attitude towards marriage was cold, "he had no idea of the sweet sympathy of a loving wife beyond

mere friendship and conversation," and could not be induced to marry. He had little belief in inborn genius, holding rather that diligent work and culture were the main factors. But his later writings were incoherent, even raving. He called himself "the Godless" and "the Immoralist." His chief commandment was "Be hard, suppress Pity." Eventually Nietzsche grew insane, the first attack being in 1888, and he died in 1900 after 11 years of insanity.

MR. D. HARVEY ATTFIELD, M.A., M.B., B.C., D.P.H. Cantab., has been appointed by the unanimous vote of the International Sanitary Council in Egypt, Medical Director of the Maritime Sanitary and Quarantine Service at Suez. The chief duty is to inspect medically, with the aid of three medical officers of health of different nationalities, all vessels before they enter the canal *en route* for Europe. The attached sanatorium is on the opposite side of the Gulf of Suez at Moses Wells. The sanitary inspection of the pilgrims from Mecca and Medina is carried on during a four-day detention in camp at Tor some 150 miles lower down the gulf. Dr. Harvey Attfield, who was medical officer of health of Watford from 1898 to 1900, filled one of the three junior positions in the Egyptian Quarantine Service from 1894 to 1897. It is not often that an Englishman gets an unanimous vote for an appointment from an international authority in Egypt.

AT the beginning of this year an infectious diseases isolation hospital and a crematorium were opened at Hull. On Jan. 10th the steamer *Friary* arrived from Alexandria with one member of her crew dead. His body was removed to the mortuary and afterwards buried. On Jan. 12th two of the crew sickened and their illness was diagnosed as influenza with pulmonary complications. On Jan. 15th, two more sickened, and all four have died. A bacteriological examination made by Dr. E. Klein revealed the presence of plague bacilli, the disease having taken the pneumonic form. The bodies of the four men who died have been cremated. Other cases followed, and up to Jan. 23rd there were five cases under treatment and 10 under observation. One of the latest admissions is a medical man who attended the first cases on the *Friary*.

AT the commencement of the meeting of the Royal Medical and Chirurgical Society on Tuesday evening last, Jan. 22nd, the President, Dr. F. W. Pavy, rose in the chair and spoke as follows:—

"An event has happened within the last two or three hours which has cast sadness and grief into the minds of all. The Queen, the patron of this society, has been taken from us. I am sure that the feelings of all present will dictate the only course which is open to us under the circumstances. We cannot enter with any heart into the proceedings of an ordinary meeting. I therefore propose that this meeting be adjourned."

The motion was carried in silence. The council of the society have resolved "that all the business of the society shall be postponed until after the funeral of Her late Majesty."

THERE will be a discussion on the Feeding of Infants in Health and Disease at a meeting of the West London Medico-Chirurgical Society to be held on Friday, Feb. 1st, at 8.30 P.M. The society's rooms are in the West London Hospital, Hammersmith-road, W. Members of the medical profession who are interested in the subject are invited to attend and to join in the discussion.

AT the meeting of the Metropolitan Hospital Sunday Fund held at the Mansion House under the presidency of the Lord Mayor on Jan. 18th the members were occupied with the transaction of formal business, chiefly the appointment of committees and the filling up of vacancies. Since that meeting a vacancy in the Distribution Committee has been occasioned by the lamented death of Dr. Sedgwick Saunders, who, though rarely taking part in the public meetings of the Council, did useful work on this most important committee.

THE death is announced of Dr. Walter Myers, B.Sc. Lond., M.B. Camb., who has been engaged at Para in Brazil for the Liverpool School of Tropical Medicine in investigating the causes of yellow fever. Dr. Myers has been a true martyr to science.

THE amount received by the Soldiers' and Sailors' Families Association is now approximately £62,000, which includes the sums sent to the Lord Mayor at the Mansion House.

THE first issue of the *Philadelphia Medical Journal* for the new century contains the unexpected announcement of the retirement of Dr. George M. Gould from the editorial chair.

THE appointment of Mr. William Maclachlan McDonald, medical officer at Montserrat, to the Legislative Council of that Presidency, has been officially approved.

THE ROYAL COMMISSION ON SOUTH AFRICAN HOSPITALS.

THE report of the Royal Commission appointed to consider and report upon the care and treatment of the sick and wounded during the South African campaign was published on Wednesday last. It is a highly interesting document and will require detailed consideration at our hands. The officers of the Royal Army Medical Corps are spoken of by the Commissioners in terms of high praise—a little reservation being made as to the excess of military tone in some of the service hospitals; and we trust that the suggestions of the Commissioners that the service should in several ways be modified so as to be made more attractive to medical men of high scientific and professional attainments will not be allowed to go unheeded. The employment of nurses in the army is strongly recommended, their attentions, though not desirable in venereal cases, being much preferable to those of orderlies in typhoid fever. The section of the report that deals with the care of the sick and wounded in various places during the campaign, in so far as it supplies an answer to or a commentary upon some of the sensational statements that have been published, will be the section to be read with the greatest avidity by the public. It is also the part concerning which we shall have much to say. The blue-book ends with the following conclusion:—

"We have now, to the best of our ability, pointed out in what respects and to what extent complaints with regard to the care of the sick and wounded in the present South African campaign are well founded. We have also called attention to the causes, so far as we can trace them, of any undue suffering by patients during the campaign. And where, in our opinion, mistakes and oversights on the part of the responsible authorities have occurred we have referred to them. We have also stated what steps ought to be taken with a view of remedying the evils we have noticed. Those evils were serious and ought not to be minimised. But in concluding our report we desire to say that in our judgment, reviewing the campaign as a whole, it has not been one where it can properly be said that the medical and hospital arrangements have broken down. There has been nothing in the nature of a scandal with regard to the care of the sick and wounded; no general or widespread neglect of patients or indifference to their suffering. And all witnesses of experience in other wars are practically unanimous in the view that, taking it all in all, in no campaign have the sick and wounded been so well looked after as they have been in this."

The Death of the Queen.

To the inexpressible grief of her subjects Queen Victoria has passed away. The ruler for over 60 years of an inheritance which under her sway became the largest empire the world has ever seen, her life is an integral part of the history of modern civilisation; so that even to give the briefest sketch of its salient points would be far beyond the scope of THE LANCET. We only here desire to record the profound regret of the profession which we strive to represent at the loss of our good and great Queen.

THE LAST ILLNESS OF THE QUEEN.

From information with which we have been favoured we append the following authoritative account of the last illness of the Queen :—

OSBORNE, Jan. 23rd, 1901.

The Queen's health for the past 12 months had been failing, with symptoms mainly of a dyspeptic kind accompanied by impaired general nutrition, periods of insomnia, and later by occasional slight and transitory attacks of aphasia, the latter suggesting that the cerebral vessels had become damaged, although Her Majesty's general arterial system showed remarkably few signs of age.

The constant brain work through a long life of Royal responsibilities, and the Imperial events, domestic sorrows, and anxieties which have crowded into her later years, may no doubt be held in some measure to account for this discrepancy between the cerebral and general vessel nutrition. The thoracic and abdominal organs showed no signs of disease.

The dyspepsia which tended to lower Her Majesty's originally robust constitution was especially marked during her last visit to Balmoral. It was there that the Queen first manifested distinct symptoms of brain fatigue and lost notably in weight.

These symptoms continued at Windsor where in November and December slight aphasic symptoms were first observed, always of an ephemeral kind and unattended by any motor paralysis.

Although it was judged best to continue the negotiations for Her Majesty's proposed visit to the continent in the spring, it was distinctly recognised by her physicians and by those in closest personal attendance upon her that these arrangements were purely provisional, it being particularly desired not to discourage Her Majesty in regard to her own health by suggesting doubts as to the feasibility of the change abroad to which she had been looking forward.

The Queen suffered unusual fatigue from the journey to Osborne on Dec. 18th, showing symptoms of nervous agitation and restlessness which lasted for two days. Her Majesty afterwards improved for a time both in appetite and nerve tone in response to more complete quietude than she had hitherto consented to observe.

A few days before the final illness transient but recurrent symptoms of apathy and somnolence with aphasic indications and increasing feebleness gave great uneasiness to her physician.

On Wednesday, Jan. 16th, the Queen showed increasing symptoms of cerebral exhaustion. By an effort of will, however, Her Majesty would for a time, as it were, command her brain to work and the visitor of a few minutes would fail to observe the signs of cerebral exhaustion.

On Thursday the exhaustion was more marked with considerable drowsiness; and a slight flattening was observed on the right side of the face. From this time the aphasia and facial paresis although incomplete were permanent.

On Friday the Queen was a little brighter, but on Saturday evening, 19th, there was a relapse of the graver symptoms which with remissions continued until the end.

It is important to note that notwithstanding the great bodily weakness and cerebral exhaustion the heart's action was steadily maintained to the last; the pulse at times evincing increased tension, but being always regular and of normal frequency.

The temperature was normal throughout. In the last few hours of life paresis of the pulmonary nerves set in, the heart beating steadily to the end.

Beyond the slight right facial flattening there was never any motor paralysis, and except for the occasional lapses mentioned the mind cannot be said to have been clouded. Within a few minutes of death the Queen recognised the several members of her family.

A BRIEF BIOGRAPHICAL SKETCH.

Her Majesty Queen Victoria was the daughter and only child of Edward, Duke of Kent, fourth son of George III. (whom he predeceased) by his wife the Princess Victoria Mary Louisa of Saxe-Coburg, widow of Charles, Prince of Leiningen. The death of the Princess Charlotte, the only child of George IV., childless, and the subsequent deaths of Frederick Duke of York and of King William IV. without issue, brought Her Majesty to the throne as heiress of her uncle when only a few days over 18 years of age. It had been evident for some years what her high destiny would be, and she was educated by her mother, the Duchess of Kent, with a special eye towards her fateful future.

In 1837, on the death of William IV., she ascended the throne. The times were critical, as all know. A great Reform Bill had just become law and pleased nobody, for while it curtailed the privileges of the landowners it did not seem to be sufficiently sweeping to benefit the working man. An iniquitous measure prohibited the introduction into the land of foreign corn until wheat had reached the astounding price of 80s. a quarter, and it is not too much to say that in 1837 the poor of the land were kept by law at the verge of starvation. Chartism, a movement which aimed at drastic changes in the Constitution, had assumed proportions indistinguishable from rebellion. At this juncture a girl in her teens, sufficiently well grounded in public affairs to understand the enormous responsibilities that fate was placing upon her, was

QUEEN VICTORIA.

called to the head of the State, and came unfalteringly. From the first Council over which she presided the Queen gave evidence of courage, devotion to duty, and an intention to understand the rights and the wrongs of all great questions arising in her realm. She did not, most happily for her, remain long without a confidant to share her tremendous responsibilities. Three years after her accession, that is, in 1840, she married her cousin, His Royal Highness F. Albert A. C. E. Prince of Saxe-Coburg and Gotha and Duke of Saxony. By him she had nine children, of whom the eldest son now succeeds as King Edward VII. In 1861 the Prince Consort died, to the irreparable grief of his widow, who during the next 10 years remained in seclusion as far as devotion to the affairs of the nation would allow her to do so. For 20 years of wedded life the Queen enjoyed the support of a lover and husband who was also a wise and faithful friend, and no one can doubt that the deep affection which she had for the Prince Consort and the unbounded confidence which she rightly placed in his judgment greatly lightened the burden of State affairs for her. Throughout the dark days of the Crimean war, and the still more terrible season of the Indian mutiny, the Queen had her husband beside her to share her grief and confirm her resolution. It is no wonder that the death of such a consort should have remained with her as an ever-abiding sense of loss.

The Queen emerged from the semi-seclusion of her mourning under circumstances which ensured her the sympathy of a people who were loyal to her and cognisant of her many deep claims upon their respect and admiration, but who had at the time not the intimate knowledge of her which it has since been their privilege to obtain. In 1872 the Prince of Wales recovered from typhoid fever after passing through a stage of the disease during which medical opinion held out but small hope of the fortunate issue. The Queen returned public thanksgiving in St. Paul's Cathedral for the recovery of her son and from that time forward lived much more in the sight of her people.

How far the personal history of our dead Queen is also the constitutional history of her people cannot be even guessed at, but when the scientific historians of the future come to tell the history of the reign of Queen Victoria we are certain that the present estimate of her as a wise monarch will be completely justified. She came to the throne the child of kings who were only deterred from exercising their absolutism by a recollection of the fate of the House of Stuart. Fortunate in her early advisers she determined to take a part at once in her own Councils when the thought of her responsibilities might well have appalled her. Happy, extraordinarily happy, in the choice of a husband she was able almost from the first to share these responsibilities with a good man. And so it was that doubly fortified against timidity and strong in the knowledge that she possessed a well-informed mind, a mind open equally to the principles of justice and the sentiments of mercy, Queen Victoria was able to maintain the best parts of her prerogative and to yield without any sense of weakness claims that might have been universally acknowledged as due to the Crown in the seventeenth century, which the Crown had to struggle for in the eighteenth century, and which the educated nation of Great Britain would never for one moment have granted in the nineteenth century. As decade after decade went by under her firm and gentle rule the nation became permeated with the sense that they were governed by a woman not only of wide personal sympathies and of a sweet and religious nature but also of extraordinary mental endowments. They saw that instinctively she ruled upon right evolutionary principles, not seeking for novelty or blindly wedded to the tradition of an ancient *régime*, but taking for her scheme what was good in the past and adding to it what was of promise in the future.

She was prompt to recognise her true position and to realise both its possibilities and its limitations. There can be no doubt that our nation would never have enjoyed its extraordinary era of prosperity beneath a monarch content to rule in name only and willing, because certain attributes of mediæval royalty had to be surrendered, to waive all personal responsibility and to sit behind her Councils a figure-head, the nominal fount of honour and nothing more. The Queen was no less judicious in the assertion of her personality than she was just in her sense of what was due to the progress of the nation committed to her charge, and as a consequence her people as they came to know her loved her. The increasing affection in which the Queen was held underwent remarkable demonstration in 1887 upon the occasion of the Jubilee of her reign, from which time forward, as we have said elsewhere, personal love for the sovereign became a quality common to the whole nation.

To medicine the Queen was always a good friend. She chose her medical advisers with discrimination and honoured with her deep personal friendship more than one of them. During her reign the enormous developments of science have been freely recognised as one of the great factors in British progress, and in no branch of science has more progress been made than in those departments of medicine where the introduction of the use of anæsthetics and the discoveries of the antiseptic treatment are available. Her Majesty showed her appreciation of our profession by the admirable selections which she made of her physicians and surgeons, and by the faith which she put in their advice. It is noteworthy that the Queen was early inducted into orthodox medicine, for she was the first member of our Royal Family to be vaccinated.

There were until shortly before the commencement of her fatal illness few premonitory signs of real danger to her life. To the grave public anxieties and private griefs of the last 18 months of her reign her death may possibly be attributable in a secondary degree, but the end came as a peaceful and natural conclusion of a long, full, and beautiful life. Her Majesty died at half-past six o'clock in the afternoon of Tuesday, Jan. 22nd, in the eighty-second year of her age, the immediate cause of death being cerebral failure. The authoritative statement which we publish above tells the story of the last illness so clearly to the medical man, that we need not enlarge upon it.

THE REPORT OF THE ANÆSTHETICS COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION.

IN consequence of a resolution unanimously adopted by the Section of Therapeutics at the annual meeting of the British Medical Association held in Bournemouth in 1891, a committee was appointed "to investigate the clinical evidence with regard to the effects of anæsthetics upon the human subject; and especially the relative safety of the various anæsthetics, the best methods of administering them, and the best methods of restoring a patient in case of threatened death." From the general committee an Analysis Sub-committee was formed, and we have now in a bulky volume of 134 pages the report of this Analysis Sub-committee. The committee instituted an inquiry, which extended over the year 1892, into all cases of the administration of anæsthetics in the United Kingdom of which accurate notes could be obtained. Records were derived from personal observation in hospital or in private practice or both during the year 1892 (1) in cases where no dangerous symptoms have occurred and (2) giving special details of cases in which dangerous symptoms or death occurred.

A list is given of the sources from which reports of cases were returned in the record books, together with the names of the observers, and in all 136 books were returned, recording details of 25,920 cases. Professor W. Ramsay, Professor of Chemistry in University College, London, publishes a report upon samples of the anæsthetics employed in cases which displayed dangerous symptoms, and Lieutenant-Colonel E. Lawrie, I.M.S., of Hyderabad, sends a report containing a summary of 1521 administrations of chloroform in India.

The Analysis Sub-committee give the fullest details in reference to uncomplicated and complicated cases, cases with minor complications, cases of anxiety, cases of danger, and cases of death. In the table of anæsthetics employed there were, out of a total of 25,920 cases analysed, 13,393 in which chloroform was the anæsthetic employed, 4595 of ether administration, 2911 of nitrous oxide, 2071 of gas and ether, 678 of A.C.E. mixture, 597 of nitrous oxide mixed with oxygen, 418 of chloroform and ether in various proportions, 275 of chloroform followed by A.C.E. or by some similar mixture, and 155 of A.C.E. followed by ether.

The uncomplicated cases amounted to 25,163, or 97·169 per cent. of the total cases in the record books, while the complicated cases (those presenting unusual symptoms or sequelæ referable wholly or in part to the anæsthetic) were 733 in number, being 2·831 per cent. of the total cases in the record books. The complicated cases are sub-divided into cases with minor complications (some abnormality but no actual anxiety or danger), cases of anxiety (with symptoms requiring remedial measures but not involving immediate danger), cases of danger (with symptoms threatening the patient's life), and cases of death (due wholly or in part to the anæsthetic). The most elaborate abstracts are given of cases falling into each of these subdivisions, with the anæsthetic employed in each case.

29 cases of death due partly or entirely to the anæsthetic are considered, and details of all these cases are appended. The influence of various factors upon the phenomena of anæsthesia is most carefully discussed, and it is curious to note that the percentage of complicated cases was greater in males than in females, as well as the percentage of danger cases. In males the percentage of danger cases under chloroform was nearly six times that of danger cases under ether, more than seven times that of danger cases under gas and ether, and nearly two and a half times that of danger cases under the A.C.E. mixture. In the female cases the percentage of danger cases under chloroform was nearly twice that of danger cases under ether, more than twice that of danger cases under gas and ether, and nearly twice that of cases under the A.C.E. mixture. Minor complications are notably more frequent in males than in females under ether. The frequency with which cases of danger occurred in patients in good condition was as follows: with chloroform, one in every 133 administrations; with ether, one in every 664 administrations; and with gas and ether, one in every 834 administrations.

Much information is given as to the influence of various anæsthetics in certain pathological states, while an interesting comparison is given of the methods of their administration. In giving chloroform the towel method shows the highest percentage of complications and the highest danger rates; the method of giving the drug on lint shows a striking diminution in both the complication and danger rates.

Of the 29 deaths recorded 18 were under chloroform. Of these three are considered to have been due entirely to the anæsthetic and four to the anæsthetic principally and the patient's condition secondarily; in the others there is either doubt as to the relative shares taken by the three factors—anæsthetic, patient's condition, and operation; or the death was distinctly due more to one or both of the two latter causes than to the anæsthetic. Of the deaths under ether not one is held to be due entirely to the anæsthetic. The conclusion is emphasised that danger to life under the use of chloroform is greater than when other anæsthetics are employed. We have drawn attention in mere outline to this report which teems with the most valuable information on almost every phase of the administration of anæsthetics. The following are the conclusions which the sub-committee think appear to be justified as a result of their most exhaustive study and analysis of the whole cases:—

CONCLUSIONS.

Relative safety of the various anæsthetics.—1. The relative safety of the various anæsthetics may be gathered from the statistical tables in the report. When only those cases of danger which were held to be due entirely to the anæsthetic are considered the following instructive figures are obtained, further emphasising the danger of chloroform as contrasted with ether. Cases of danger (including deaths) considered to be due entirely to the anæsthetic: under chloroform, 78, giving a danger rate of 0·582 per cent.; under the A.C.E. mixture, 1, giving a danger rate of 0·147 per cent.; under mixtures of chloroform and ether, 2, giving a danger rate of 0·478 per cent.; under the A.C.E. mixture followed by chloroform, 1, giving a danger rate of 1·694 per cent.; under chloroform preceded by ether, 5, giving a danger-rate of 2·2 per cent.; under chloroform followed by mixtures of alcohol, chloroform, and ether, 1, giving a danger-rate of 0·26 per cent.; under ether, 2, giving a danger-rate of 0·065 per cent.; under "gas and ether," 3, giving a danger-rate of 0·096 per cent.; under ether preceded by chloroform, 1, giving a danger-rate of 0·480 per cent.; under ether preceded by the A.C.E. mixture, 0; under the chloroform group of anæsthetics (addition of the first six headings above), 88, giving a danger-rate of 0·684 per cent.; and under the ether group of anæsthetics (addition of the last four headings above), 6, giving a danger-rate of 0·085 per cent. 2. Although (excluding nitrous oxide) ether may be accepted as the safest routine agent certain circumstances determined by the state of the patient, the nature of the operation, &c., may render the use of some other anæsthetic or combination of anæsthetics both safer and easier.

The best methods of administration.—3. No method of administration of chloroform is free from danger, but an examination of the complicated cases appears to show that the occurrence of danger depends largely upon the administrator who employs any particular method. 4. No conclusion from the evidence before the committee as to the best method of administration of ether and "gas and ether" is possible. 5. The data warrant the conclusion that the A.C.E. mixture should not be given from a closed inhaler—e.g., Clover's. This conclusion applies to all mixtures containing chloroform.

Best methods of restoration.—7. The sub-committee are unable from the material at their disposal to draw any conclusion upon this point.

Clinical evidence regarding anæsthetics generally.—8. Anæsthetics are more commonly associated with complications and dangers in males than in females. 9. Excluding infancy, and taking anæsthetics collectively, the complications and dangers of anæsthesia increase *pari passu* with advancing age. 10. Anæsthetics are notably more dangerous in proportion as the gravity of the patient's state increases. 11. Danger to life is especially likely to be incurred at early periods of the administration of anæsthetics, while the tendency to less grave complications increases directly with the duration of anæsthesia. 12. The tendency for complications, dangerous and otherwise, to occur increases *pari passu* with the gravity of the operation.

Clinical evidence regarding chloroform.—13. Chloroform is about twice as dangerous in males as in females. 14. Chloroform is most dangerous during early infancy and after 30 years of age; least so from 10 to 30 years of age. 15. In conditions of good health chloroform is very much more dangerous that other anæsthetics. In grave conditions chloroform still remains the least safe anæsthetic, but the disparity between it and other anæsthetics is far less marked than in health. 16. When danger occurs under chloroform, whatever its exact nature may be, there is abundant evidence that in a large proportion of cases the symptoms that are observed are those of primary circulatory failure. 17. Imperfect anæsthesia is the cause of a large number of cases of danger under chloroform. 18. Vomiting during anæsthesia, which may lead to danger, seems to be more frequent under chloroform than under other anæsthetics. 19. Struggling is very much more frequent in the complicated cases under chloroform than in the uncomplicated, and this phenomenon must therefore be regarded as a source of grave danger under chloroform. 20. The tendency for circulatory complications to appear increases directly with the relative amount of chloroform in the anæsthetic employed. 21. While vomiting is more common after administrations of ether, severe and prolonged vomiting is more common when chloroform has been used. 22. Circulatory depression following anæsthetics is more common after chloroform than after ether. 23. While the respiratory complications of anæsthesia as a whole are of equal frequency under the ether and chloroform groups respectively, yet those that occur under ether are mostly of a trifling and transitory

nature while those that occur under chloroform are more grave and persistent.

Clinical evidence regarding ether.—24. Under ether the complications of anæsthesia are more frequent with males than with females, but with the former they are generally slight, ether being rather more dangerous with females than with males. 25. Ether, where employed throughout or preceded by nitrous oxide gas or by the A.C.E. mixture, is singularly free from danger in healthy patients. 26 Minor troubles in administration due to laryngeal irritation and increased secretion are more common under ether and "gas and ether" than under chloroform and its mixtures. 27. Struggling occurs more frequently with ether when given alone than with other anæsthetics, but it rarely leads to danger. 28. After-vomiting is more common with ether than with other anæsthetics, but it is usually transient. 29. Bronchitis is much more common as an after-effect of ether than of chloroform. 30. With "gas and ether," as with ether, dangers are more common in females, although complications are more frequent in males.

Clinical evidence regarding mixtures and successions of anæsthetics.—31. The A.C.E. mixture in most of the statistical tables holds an intermediate position between chloroform and ether. 32. The A.C.E. mixture is more dangerous in males than in females, but not to such a marked degree as is chloroform. 33. The administration of ether antecedent to chloroform does not abolish the possibility of chloroform dangers. 34. The various mixtures and successions of anæsthetics were recorded too infrequently to justify definite conclusions.

General conclusion.—35. From the evidence before the sub-committee they are convinced that by far the most important factor in the safe administration of anæsthetics is the experience which has been acquired by the administrator. In many cases the anæsthetisation completely transcends the operation in gravity and importance, and to insure success, particularly in these cases, it is absolutely essential that an anæsthetist of large experience should conduct the administration.

THE WAR IN SOUTH AFRICA.

THE public mind has of late been occupied with one absorbing subject—the condition of the Queen. Nothing else seemed worthy of consideration, and in point of fact nothing else received consideration. People have been living in a state of suspense and nervous tension and in an alternation of hopes and fears, and even where, as in the case of the medical profession, fears and forebodings as to what the issue would be formed the dominating feeling in their minds, they as an involuntary instinct and impulse of their being nevertheless strove to nurture hope in their hearts as long as it was possible to do so. The news that the invading Boers in Cape Colony were nearing the coast, in the all-pervading sorrow and gloom caused by the illness and death of Her Majesty, received very little attention.

The war in South Africa has from the first been unique and the situation at present is probably in some respects without precedent. The Boers are displaying an uncommon degree of renewed energy and the position of affairs in South Africa is not such as the nation might have expected after having been assured that the war was over and after having read in the papers of the return of troops to this country and the colonies.

But the Boers, despite of all the difficulties and embarrassments they can create in the meantime, cannot live for ever by looting. They cannot obtain unlimited supplies of food, ammunition, war material, and horses, they must provide for the care of their sick and wounded, and the further they get from the sources of their supplies the more difficult will their task become. Moreover, when reinforcements in the shape of mounted troops reach Lord Kitchener the conditions will have changed. In the meantime there is great activity at the Cape in recruiting for local corps and volunteers.

Speaking of the number of officers who from one cause and another have left the seat of war for this country we may say that the officers who have been most overworked and are in most need of rest are the medical officers, but they, owing to their limited numbers, are compelled to stick to their duties in the field. A glance at the casualty returns shows that enteric fever is still very prevalent among the British forces in South Africa. This disease, together with dysentery, make up the bulk of the sickness. There has, too, been a good deal of desultory fighting of one sort and another owing to the marauding attacks of the Boers and as a consequence there has been an accession to some extent to the list of wounded in hospital.

INFECTIOUS DISEASES AT SWINDON.—At the quarterly meeting of the board of the Swindon and District Hospital held on Jan. 17th it was reported that there were 42 infectious cases in the hospital, being 20 more than the institution was provided for. It was decided to remove some of the convalescent cases to the new small-pox hospital.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6858 births and 4320 deaths were registered during the week ending Jan. 19th. The annual rate of mortality in these towns, which had been 16·9, 17·5, and 19·6 per 1000 in the three preceding weeks, declined again last week to 19·1. In London the death-rate was 18·7 per 1000, while it averaged 19·4 in the 32 large provincial towns. The lowest death-rates in these towns were 13·9 in Croydon, 14·1 in Cardiff, 14·7 in Oldham, and 14·9 in West Ham; the highest rates were 23·3 in Swansea, 23·4 in Liverpool, 24·7 in Preston, and 24·8 in Sunderland. The 4320 deaths in these towns included 374 which were referred to the principal zymotic diseases, against 323 and 389 in the two preceding weeks; of these 99 resulted from whooping-cough, 95 from diphtheria, 79 from measles, 38 from "fever" (principally enteric), 36 from diarrhœal diseases, and 27 from scarlet fever. The lowest death-rates last week from these diseases occurred in Portsmouth, Oldham, Huddersfield, and Halifax, and the highest rates in Nottingham, Bolton, Blackburn, Preston, and Sheffield. The greatest mortality from measles occurred in Swansea and in Wolverhampton; from scarlet fever in Preston; from whooping-cough in Nottingham, Birkenhead, Preston, and Sunderland; and from diarrhœal diseases in Blackburn. The mortality from "fever" showed no marked excess in any of the large towns. The 95 deaths from diphtheria in the 33 towns included 32 in London, 13 in Sheffield, six in Leeds, six in Bristol, and five in Birmingham. No fatal case of small-pox was registered last week either in London or in any of the 32 large provincial towns, and no case of small-pox remained under treatment on Saturday, Jan 19th, in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2171, against 2535, 2390, and 2277 on the three preceding Saturdays; 187 new cases were admitted during the week, against 167, 163, and 156 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 306 to 392 in the four preceding weeks, further rose last week to 422, but were 238 below the corrected average. Influenza was certified as the primary cause of 20 deaths in London last week, against 10 in each of the two preceding weeks. The causes of 59, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Cardiff, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Norwich, Liverpool, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·2 and 21·9 per 1000 in the two preceding weeks, further rose to 24·0 per 1000 during the week ending Jan. 19th, and showed an excess of 4·9 per 1000 over the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·0 in Leith and 15·5 in Greenock to 28·6 in Perth and 29·3 in Aberdeen. The 752 deaths in these towns included 61 which were referred to whooping-cough, 23 to measles, 16 to diarrhœa, 14 to "fever," six to diphtheria, three to small-pox, and two to scarlet fever. In all, 125 deaths resulted from these principal zymotic diseases, against 76 and 101 in the two preceding weeks. These 125 deaths were equal to an annual rate of 4·0 per 1000, which was 2·3 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 29 and 49 in the two preceding weeks, further rose last week to 61, of which 44 occurred in Glasgow, 10 in Dundee, and five in Edinburgh. The deaths from measles, which had been 15 and 12 in the two preceding weeks, rose again to 23 last week, and included nine in Aberdeen, eight in Edinburgh, and three in Leith. The fatal cases of diarrhœa, which had increased from 10 to 22 in the five preceding weeks, declined again last week to 16, of which seven were registered in Glasgow, four in Dundee, and two in Aberdeen. The deaths referred to different forms of "fever" which had been seven, two, and two in the three preceding weeks, increased

to 14 last week, and included 10 in Glasgow, two in Edinburgh, and two in Aberdeen. The fatal cases of diphtheria, which had been three and eight in the two preceding weeks, declined again last week to six, of which three occurred in Edinburgh. The deaths from small-pox, which had been three, three, and two in the three preceding weeks, rose again last week to three, and were all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 105 and 123 in the two preceding weeks, further rose last week to 139, but were 59 below the number in the corresponding period of last year. The causes of 30, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·4 and 28·3 per 1000 in the two preceding weeks, rose again to 30·4 per 1000 during the week ending Jan. 19th. During the past four weeks the death-rate in the city has averaged 27·4 per 1000, the rates during the same period being 18·2 in London and 20·9 in Edinburgh. The 202 deaths belonging to Dublin registered during the week under notice were 14 in excess of the number in the preceding week and included 16 which were referred to the principal zymotic diseases, against 23 and 18 in the two preceding weeks; of these, 12 were referred to whooping-cough, three to "fever," and one to diarrhœa. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 1·6 in London and 3·0 in Edinburgh. The deaths from whooping-cough, which had been 13 and 10 in the two preceding weeks, rose again last week to 12. The fatal cases of "fever," which had been three in each of the two preceding weeks, were again three last week. The 202 deaths in Dublin last week included 41 of children under one year of age and 51 of persons aged upwards of 60 years; the deaths of infants largely exceeded the number in the preceding week, while those of elderly persons showed a decline. Five inquest cases and five deaths from violence were registered; and 72, or more than a third, of the deaths occurred in public institutions. The causes of 10, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following officer has been noted for accelerated promotion for services in China:—Surgeon Edward Butler Pickthorn.

The following appointments are notified:—Surgeons: Mowat to the *Duke of Wellington*; J. G. Corry to the *Northampton*, for the *Calliope*; and F. Fedarb to the *Excellent*.

ROYAL ARMY MEDICAL CORPS.

Major J. C. Morgan, R.A.M.C., has been appointed Medical Officer of the Duke of York's Royal Military School, Chelsea, vice Lieutenant-Colonel J. H. C. Whipple, A.M.S. (retired), in recognition of his services as staff surgeon in charge of head-quarters in the Tirah campaign, 1897-98.

DEATHS IN THE SERVICES.

Deputy-Inspector-General Edward Hodges Cree, R.N. (retired), aged 87 years, on Jan. 15th at his residence, 2, Pemberton-gardens, Holloway. At one time he held the post of staff-surgeon at the dockyard at Portsmouth, and was surgeon on board the *Rattlesnake*, the *Vixen*, and the *Fury* during the war with China (medal) and the operations on the coast of Borneo in 1839. He was also surgeon on board the *Odin* in the Baltic in 1854 (medal) and was at the taking of Sebastopol in the following year (medal).

THE PRINCESS AND THE WOUNDED.

The Princess of Wales has presented the patients at the Gables private military hospital, Surbiton, with handsome pocket-cases, each inscribed "A gift from the Princess of Wales," and a cartridge pencil bearing the name of the engagement at which the recipient was wounded.

DISCHARGED TO DUTY.

The following have been discharged to duty: Civil Surgeons W. R. Kemp, J. P. N. Casey, FitzGibbon, Mackenzie, Hoskin, Petty, and McMurty.

THE WAR IN CHINA.

It is very gratifying to hear such good accounts of the British forces—and of those of the Indian contingent especially—serving in China. The cold is severe there at the present season, but it is not the case that the Indian troops are dying of cold and are not properly cared for. It is inevitable, as the special correspondent of the *Standard* writes, that in every campaign a certain number of deaths should take place from sickness and the total mortality may be large by the time the war is over, but the troops are well provided for and certainly as well as they can be under the circumstances. It must be borne in mind that China is not at all like England in the way of sanitation. Tientsin, for example, is entirely without drainage, even of the most rudimentary kind, and there is a good deal of unavoidable overcrowding, especially among the native population. The *Standard* correspondent says:—

> The British military authorities have managed in some way to get all their men h·uses, and have rented some of the best places available. They have secured stocks of coal and an ample supply of stoves; the commissariat stores are full to overflowing, and, so far as most of us can see, nothing has been left undone that could have been done to keep the native troops well and fit. Native sentries have short duty, and are served with hot tea before and after duty. And as for clothing Tommy would smile could he see some of his dusky colleagues going about town. Many officers, almost fastidiously anxious to keep their men sound, give them extra comforts, &c.

The men have plenty of warm clothing of all kinds, but all who know anything of the habits and practices of our Indian native troops, excellent as these troops are in respect of courage and discipline, know that they are singularly "absent-minded" and careless in exposing themselves to all kinds of risks from colds and chills, and that they have to be watched like children in these respects. Native soldiers on field service are peculiarly liable to pneumonia and pulmonary diseases. In spite of their habits and practices, against which the officers fight with energy, the sick list is not a long one. No one, says the correspondent, can suggest the slightest neglect on the part of the military authorities.

COMPLIMENTARY DINNER TO MEDICAL AND SURGICAL OFFICERS OF THE RED CROSS HOSPITAL.

A complimentary dinner to Colonel Cayley and the medical staff of the National Red Cross Hospital was given on Friday evening, Jan. 18th, at Messrs. Ferguson and Forrester's Restaurant, Buchanan-street, Glasgow. The Marquis of Breadalbane, K.G., presided and amongst those present were Professor George Adam Smith, Colonel R. C. Mackenzie, Colonel Cayley, commandant of the staff; Mr. H. E. Clark, senior surgeon; Sir David Richmond, Professor Chiene, Sir James Bell, Dr. Beatson, Dr. John Cowan, Dr. John Aitken, Dr. Stirling, and Dr. John M'Intyre.

Correspondence.

"Audi alteram partem."

THE EXAMINATIONS FOR THE SWISS FEDERAL DIPLOMA.

To the Editors of THE LANCET.

SIRS,—It will be convenient for me and of use to others if you will allow me to describe my experience of the examinations required for the Swiss Federal diploma under the new regulations, for I am receiving many letters on the subject, as I am the first Englishman to obtain the diploma under these regulations. It is 10 years since they were enforced, and meanwhile only one Englishman has attempted, and no one has succeeded, in obtaining the diploma.

The examinations required are three in number. 1. The Federal Maturité. 2. The examination in anatomy, physiology, embryology, and history. 3. The "professional," which includes pathology and pathological anatomy, medicine, therapeutics, diseases of children, ophthalmic surgery, surgery, midwifery and gynæcology, hygiene, medical jurisprudence, and mental diseases. The examinations are conducted in French, German, or Italian. Those candidates who elect to be examined in French or Italian have to go to Geneva or Lausanne. Those who choose German must go to Basle, Berne, or Zurich. The examinations are held twice a year, in the spring and in the autumn. Application for admission to, or for information about, the

Maturité should be made to Professor Geiser, Kussnacht, near Zurich. For the medical examinations application should be made to Professor Courvoisier, Holbeinstrasse, Basle. No degree in arts or medicine of any university will gain for any candidate any privileges or exemption. He will have to undergo every part of every examination precisely as the other candidates.

I will deal with the medical examinations first. They are long and very practical and very thorough, divided up into many parts, and are chiefly oral. In the first one there is a "practical" in each subject, followed by 20 minutes to half-an-hour's good heckling. Then a week afterwards there is a solemn oral in each subject. Instead of the "practical" in physiology there may be an essay to write. The subjects offered at the last examination were "The Gases of the Blood," "Vital Capacity," "Pancreatic Secretion and Digestion." Three hours are allowed. In anatomy one is allowed five hours to dissect the parts allotted. A good deal of embryology is required, and microscopic sections have to be drawn and described. In histology specimens have also to be cut, stained, and mounted. In the "professional" there are 23 parts. In medicine, a case in the wards has to be taken very fully and diagnosed; another case is the subject of a *viva voce*, and there is also a solemn oral examination. In surgery the arrangement is the same, with the addition of two operations on the cadaver. In obstetrics there are a clinical examination and a practical examination in operations on the mannequin, as well as an oral. In the other subjects there are papers and oral examinations. The whole of the examination takes about a month.

Now as to the "Maturité," which is the great difficulty. It is under the management of the Commission de la Maturité Fédérale, of which Professor Geiser is the President, and is not in any way under the management or influence of the Comité Directeur of Medical Examinations. If a candidate fails twice he cannot enter again. If he passes creditably in some subjects, but fails in others, he is excused from being examined the second time in those subjects in which he has done well. The scheme is as follows:—

A. *Languages.*—1. Latin: Livy, Cicero, Virgil, Horace, Plautus. 2. Greek: Homer and Xenophon; some chapters of Plato and Sophocles. 3. Maternal language: History of the literature; written composition on some literary or scientific subject. 4. A second maternal language (a national Swiss language): Ability to read and translate it; translation and explanation of a classic. 5. Greek may be replaced by English or by a third national Swiss language.

B. *History and Geography.*—Ancient history; history of the middle ages and modern history. Physical and political geography.

C. *Mathematics.*—Algebra: Equations of the second degree; arithmetical and geometrical progression; binomial theory. Geometry: Euclid; rectilinear trigonometry; elementary problems of spherical trigonometry; conic sections.

D. *Natural Sciences.*—The principal types of the animal kingdom and general knowledge of the human body; the organs of the higher plants; the principal families of the natural system; the most important minerals. Physics and chemistry: General properties of matter; mechanics of solids, liquids, and gases; the principal laws of acoustics, of optics, of heat, of electricity and magnetism; the principal chemical elements and their most important combinations.

It will be at once seen how ill-defined are the limits of the scheduled subjects. For the guidance of others I will briefly describe my personal experience. In Latin we had a longish piece of Latin prose, for which we were allowed three hours. Then there is a *viva voce* in the set authors. I was given a part of one of Cicero's letters and was much questioned on points of grammar and construction. I took English instead of Greek. We were given a piece of French to put into English, and had to translate a piece of Green's "History of England" *viva voce*. I took French as my *langue maternelle*. We were given three hours to write the essay. The subjects from which we could choose one were "The Life and Work of Molière," "A Conversation between a Man of Science and a Man of Letters," "The Comparison of the Classical Drama with the Naturalistic." In the *viva voce* I was taken over the Chanson de Roland, Boileau, and Victor Hugo. As my second national language I took Italian. We had a longish piece of Italian prose (i.e., French with Italian) and in the *viva* I was given half a page of Manzoni's "I Promessi Sposi." In ancient history I was taken over Rameses II. and his times; Athens and Sparta and the comparison of the codes of Lycurgus and Solon; also the "Code Napoléon." In modern history we discussed Louis XIV. and his later times. There is no written paper in history, but the field is absurdly wide. In geography I was taken over isotherms, isobars, and cyclones and anticyclones. There are no paper. The mathematics are very stiff. There are a paper and a *viva voce*. The paper consisted of six problems—two in algebra, two in trigonometry, and two in conics. We might choose *one* in each subject *only*. They were all catchy and difficult. In the *viva voce* one is called upon to work sums on a blackboard involving the use of logarithms. I was also taken over the ellipse and parabola.

Natural History.—This is all *viva voce*. In zoology I was given the crocodile's heart, and the lungs of snakes, and the classification of fishes. In botany the ovary and the signification of the various forms of placentation took up the 20 minutes. In geology the various forms of crystallisation are required. In physics a good deal is required, much more than is indicated in the programme. I was taken over the comparison of electric, heat, light, and Roentgen rays, mirrors, reflection of sound, and the application of electricity to motors. In chemistry I was given nothing but phosphorus and sulphur to talk about. All this is *viva voce*. The examination takes four or five days. There is a different examiner for each subject. In the oral examinations another examiner is always present. Six is the highest given in each subject, and 0 is the lowest. One 1 is enough to plough a candidate or 2 twos or 3 threes. There were seven candidates, and only three of us passed.

I found it necessary to spend three or four months in being coached by professors at Lausanne, for the limits of the subjects of the schedule are so ill-defined and it is so difficult to find suitable text-books and so difficult to know what was required and what not required that "coaching" seemed absolutely necessary. I was treated with the utmost fairness and courtesy throughout, and nothing could exceed the kindness of Professor Fovel of Lausanne, the local president of the Maturité examination, or of Professor Láskowsky and Professor Jenzer of Geneva. I would only add that no M.D. of any Swiss university gives the right of practising in Switzerland. Only the Federal diploma can do it for the whole of Switzerland and the cantonal diploma in certain cantons.

I am, Sirs, yours faithfully,

Davos, Jan. 10th, 1901. EDWARD H. DOUTY, M.D. Cantab.

PERIPHERAL NEURITIS FROM WHISKY-DRINKING.

To the Editors of THE LANCET.

SIRS,—The most important discovery recently made by Dr. E. S. Reynolds that arsenic was present in the beer taken by a number of patients suffering from peripheral neuritis in Manchester will lead to the reconsideration of the etiology of alcoholic neuritis. There can now be no doubt of the correctness of his conclusions that many persons have recently suffered from toxic symptoms due to the presence of arsenic in beer, and that in many cases the peripheral neuritis has been entirely, or in part, produced by arsenic. Whilst his discovery is one which is of the greatest service to the community, and one of which English medicine may be justly proud, it will also lead to renewed investigations respecting the toxic effects of alcoholic beverages. Whether beer free from arsenic is capable of producing peripheral neuritis, as is generally believed, will be clearly shown by the experience of the next year or two when, in Manchester at least, all beer will be free from arsenic. To all interested in the subject the question will probably occur whether peripheral neuritis is produced by the drinking of spirits and if so whether this neuritis is also the result of arsenic as an impurity in spirits. Whilst it is stated in many text-books that alcoholic neuritis is produced by spirit-drinking it must be admitted that spirit-drinkers are often beer-drinkers also. One remembers cases of peripheral neuritis in which the form of alcohol taken was said to be spirits, but recently I have had the opportunity of observing a case in a whisky-drinker which appears to be worthy of record, since so much attention is now being given to the etiology of various forms of neuritis. The patient was under the care of Dr. Tytler,

surgeon to the Ancoats Hospital, where I examined him and obtained a careful history of the case. There could be no doubt that the case was one of advanced peripheral neuritis. All four limbs were paralysed, the wrists and feet were dropped, the knee-jerks were absent, and muscular hyperæsthesia was marked; the bladder and rectum were not affected. There were no cutaneous affections. Death occurred apparently from paralysis of the diaphragm. I made a microscopical examination of the peripheral nerves and found the changes of advanced parenchymatous peripheral neuritis. The patient had been a billiard-marker at a public-house and had had a free choice of alcoholic beverages. He had a great liking for spirits, but did not like beer. He stated, and persisted in the statement on every examination, that he had drunk freely, but that his drink had been almost exclusively Irish whisky. He maintained that during the whole 12 months previously to the onset of his illness he had not taken more than six pints of beer. I had no reason for doubting this statement, but his relatives were questioned separately; they also declared that his statement was quite true and that he had taken large quantities of whisky, but had not been a beer drinker. I separately questioned his friends at the public-house where he had been employed and they also confirmed his statement.

I obtained three samples of the kind of Irish whisky he had taken and tested them for arsenic, employing Reinsch's test, and performing the test in the same manner as I have recently done in the examination of a number of specimens of beer in which I have detected arsenic. In the samples of Irish whisky I could not detect the slightest evidence of arsenic. In order to determine whether arsenic could be detected in whisky by Reinsch's test I made a control experiment by adding a drop of liquor arsenicalis to whisky. With this control solution Reinsch's test gave a very definite reaction. Being informed that at the onset of his illness the patient had occasionally, but rarely, taken a small amount of port wine, I examined the port wine also for arsenic, but obtained no reaction. This case appears to show clearly, that peripheral neuritis can be caused by the drinking of whisky, and that whisky obtained from the same source as that drunk by the patient gave no reaction for arsenic with Reinsch's test. Whether whisky ever contains arsenic is a question for the analytical chemist to decide. As spirits are now being somewhat freely consumed in place of beer in Manchester and neighbourhood a favourable opportunity will probably exist for making observations on the occurrence of peripheral neuritis and its exact cause amongst spirit-drinkers. If arsenic can be excluded as the cause of peripheral neuritis from whisky drinking, as appears probable from the results of examinations of whisky recently published in THE LANCET and from the examination in the case just mentioned, the question remains to be decided whether the neuritis is due to the alcohol (as is generally believed), to furfural, or to other substances or impurities in the whisky. The answer to this question is of much importance with respect to the etiology of alcoholic neuritis. I am, Sirs, yours faithfully,

Manchester. R. T. WILLIAMSON.

"THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND."

To the Editors of THE LANCET.

SIRS,—I hardly suppose that any member of the College Council will condescend to reply to Dr. Albert Morton's query as to the utility of the annual meeting of Fellows and Members. Writing as one who has attended practically all of these meetings since their institution, I must say that I think the time has come when they should be either abolished or placed on a different footing. I imagine that the meetings were originally promoted owing to a dim feeling on the part of the Council that the College was becoming somewhat out-of-date, not to say fossilised. Except as an examining body no one thought anything about it. The munificence of Sir Erasmus Wilson created the necessity for a new Charter and gave the College the opportunity of a new lease of life upon broader and worthier lines than hitherto. Unfortunately, this opportunity has been missed. The Council established these meetings but had not the courage to effect what was their obvious corollary—the representation of the members. Consequently for years past matters have been at a deadlock. Year after year the farce which Dr. Morton describes is enacted, and latterly the majority of the Council are conspicuous by their absence.

It was for a long time hoped by many that the Council would agree to make the College a more popular professional institution and would place it at the head of all legitimate efforts for improvement and reform. This hope has hitherto been frustrated owing to timidity and want of confidence in the Members. The Council has allowed its mistrust of individuals to interfere with its higher duty towards the body corporate.

Nothing has been done to encourage Members to take an interest in the College. An outside organisation is allowed to practically summon the meetings and to prepare the resolutions. But for this organisation all interest in College affairs would have long ceased. At the last meeting the Council even refused a request to circulate the report beforehand among the Members. Many Members have striven hard to prevent the College from lapsing into its former mediæval and lethargic condition, but the Council has absolute power over its destinies and should this happen upon it will be the blame. I am, Sirs, yours faithfully,

Putney Heath, S.W., Jan. 22nd, 1901. W. G. DICKINSON.

THE CERTIFICATION OF LUNATICS IN POOR-LAW INFIRMARIES.

To the Editors of THE LANCET.

SIRS,—I write on a matter of legal and ethical interest. An alleged lunatic is brought by the police to the infirmary under Section 20 of the Lunacy Act, 1890. Next day the justice visits the infirmary and brings with him a medical man to examine my patient. This gentleman certifies for removal to an asylum. My longer knowledge of the case leads me to consider that it would be better to detain the patient in the infirmary for further observation. I admit that under Section 16 of the Lunacy Act the justice "shall call in *a* medical practitioner"—i.e., any "doctor" he chooses; but I submit that to pass over the usual medical attendant or surgeon under whose immediate care the patient is and to call in an outside man is contrary to the spirit, if not the letter, of the Lunacy Act. For does not Section 31, dealing with cases in which two medical certificates are required, specially enjoin that "whenever practicable" one "*shall*" "be under the hand of the usual medical attendant, if any"? And surely, if it be advisable in the interests of the private lunatic that his certification be controlled by the closer knowledge of his immediate medical attendant, then is it not equally desirable that the pauper patient should have the advantage of the opinion and skill of those who are in immediate and daily attendance upon him? Medical superintendents of infirmaries are, too, by virtue of their experience experts in lunacy diagnosis.

The Lunacy Act, therefore, in my opinion, requires altering in the interests of the lunatic—i.e., it ought to specially (and not indirectly) enjoin that the infirmary doctor (or "usual medical attendant" of the pauper) be certifier "whenever practicable." So much for law.

Finally, with reference to the ethical side of the question. What is the duty of a medical man when asked to visit a medical institution and examine the patient of a brother practitioner (for the justice cannot compel him to go)? Personally, I would absolutely refuse to be a party to such a practice at any fee however large. Of course I may be wrong, and I should like to have some expression of opinion from you on the matter.

This custom of calling in another surgeon exists, I believe, in a few workhouses and infirmaries, and in the public interest a discussion would be most useful. In my opinion the practice is a dangerous one and most unfair alike to the patient and his "usual medical attendant."

I am, Sirs, yours faithfully,

MARCUS MARWOOD BOWLAN, M.B., B.S. Dunelm., D.P.H. Cantab., Medico-Psychological Cert.,
Resident Medical Superintendent, St. George-in-the-East Infirmary; Visiting Medical Officer, St. George-in-the-East Workhouse.

Jan. 22nd, 1901.

P.S.—I have no monetary interest whatever in this matter.

THE INDICATIONS FOR LOCAL ANÆSTHESIA.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 19th, 1901, p. 197, is an annotation in which are detailed the circumstances attending the death of a child who died while undergoing an operation

at a provincial hospital. I have read the remarks, which are exceedingly succinct and concise, with great care, and personally I think your readers are under an obligation to the writer for the shrewd and experienced suggestions which are made. My thought on considering the subject-matter was that under the extreme and asthenic general condition of the little patient would not local anæsthesia for the performance of the abdominal operation have been more applicable than chloroform inhalation? I can, and so I know can many other surgeons, speak of the value and the perfect security of performing abdominal sections in patients after the previous employment in the area of the proposed operation of the hypodermic administration of eucaine. Without referring to a number of cases in which minor operations have been successfully and painlessly performed after the injection of the above-mentioned drug, I may further say that I have, without the slightest knowledge or exhibition of feeling on the part of the patient (as stated when questioned afterwards), performed the following abdominal operations: suprapubic cystotomy, an oöphorectomy, and within the last six weeks I have cut down upon the liver, explored it, and finally incised a large abscess, and clearing out the cavity concluded the operation, the patient (a young man) returning to his bed very little the worse for the procedure. I am, Sirs, yours faithfully,

Wolverhampton, Jan. 21st, 1901. T. VINCENT JACKSON.

THE EFFICIENCY OF LIQUID EXTRACT OF ERGOT.

To the Editors of THE LANCET.

SIRS,—In Professor Attfield's "Digest of Researches and Criticisms" on the British Pharmacopœia, prepared for the General Medical Council, he remarks that it is a matter of importance to collect opinions from practitioners as to whether or not the liquid extract of ergot is as trustworthy as the extract (ergotine); and if it is not to remodel the process for its preparation on that of the apparently satisfactory extract. Now ergotine is obtained by extracting ergot with alcohol, whilst the fluid extract is prepared by treating it with cold water. The universal experience of practitioners is, I think, that the latter is most uncertain in its effects and always liable to disappoint. It is also, as I can testify, of very variable strength and prone to decomposition. On the contrary, the solid extract popularly called ergotine is a most efficient drug and may be relied on to act almost with mathematical certainty.

I am, Sirs, yours faithfully,

Dublin, Jan. 19th, 1901. J. C. MCWALTER.

"ISOLATION HOSPITALS."

To the Editors of THE LANCET.

SIRS,—In reply to Mr. E. D. Agnew's letter on this subject in THE LANCET of Jan. 19th, p. 214, I beg to state emphatically that the second outbreak of scarlet fever did not occur till six days after the convalescents had returned home from the isolation hospital. The parents in each case are willing to testify to this, and to use the words of one of the mothers, "their skins were as clear as marble and their health perfect." The boy Neville returned from the hospital with an inflammatory discharge from the nose which was so severe that I have kept all the children of the house away from school—this is not yet quite well; and the desquamation suggested by Mr. Agnew in the case of the child Foster is some congenital cuticular shedding which she was suffering from when attacked and which I have often treated her for. There is not the slightest possible doubt that the second outbreak of scarlet fever was due to infection brought by the "return" cases from the Bishop's Stortford Isolation Hospital.

I am, Sirs, yours faithfully,

Stansted, Essex, Jan. 22nd, 1901. EDGAR PITTWAY.

OBTUSENESS OR ANIMUS?

To the Editors of THE LANCET.

SIRS,—In the review of my "Text-book of Pathology in Relation to Mental Diseases" in THE LANCET of Jan. 5th there is a statement so misleading and so damaging that I must request you to allow me to make an explanation regarding it. Fair criticism should always be welcome to an author, for he can invariably profit by it; unfair criticism, whether attributable to the obtuseness or to the animus of the reviewer, is for many reasons generally best left alone; but gross misrepresentation of facts, involving a serious reflection upon the author, can hardly be allowed to pass unchallenged.

The statement to which I refer is the following: "Many of the illustrations are taken from the standard works, such as those of Golgi, Lugaro, and others." Now, in the common acceptation of the term, a "standard work" is a book, and in this sense the writer of the review himself uses the word "work" in the two immediately succeeding sentences as well as in the first line of his critique. The information that your readers must therefore inevitably gather from the sentence I have quoted, taken in the context in which it stands, is that, in order to illustrate this text-book, I have been obliged to make free use of illustrations contained in already existing text-books. I have done nothing of the kind; the imputation is wholly false. The facts are that the "many illustrations" referred to by your reviewer comprise 14 figures out of 182 contained in my book, and that these 14 figures are taken, not from already existing text-books, but from recent papers in Italian neurological journals, and serve to illustrate that portion of the chapter upon the nerve-cells which purports to be nothing more than a critical digest of recent researches upon the normal and pathological histology of these tissue-elements. It is worthy of note that the "others" in the sentence quoted consist of two individuals.

I am, Sirs, yours faithfully,

W. FORD ROBERTSON.

Hill-square, Edinburgh, Jan. 14th, 1901.

*** We regret that the reviewer should have failed to make clear how many illustrations in Dr. W. Ford Robertson's book were not original and what was their exact source. We wonder that Dr. Robertson did not hesitate before charging the writer of a favourable review with obtuseness or animus.—ED. L.

ROBERT LOUIS STEVENSON: "FEVER" AND MOSQUITOES.

To the Editors of THE LANCET.

SIRS,—It is interesting to note that in 1888 Robert Louis Stevenson wrote of Atuona in "The Marquesas" as follows: "In Atuona, a village planted in a shore-side marsh, the houses standing everywhere intermingled with the pools of a taro-garden, we find every condition of tropical danger and discomfort; and yet there are not even mosquitoes—not even the hateful day-fly of Nuka-hiva—and fever and its concomitant, the island fe'efe'e, are unknown." Stevenson merely records the facts; but in these days this note, made by an accurate observer, of a spot where the absence of mosquitoes coincided with the absence of fever and of elephantiasis is worthy of remark.

I am, Sirs, yours faithfully,

Leeds, Jan. 18th, 1901. H. D. O'NEILL.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Beer Inquiry.

THE inquiry before the Manchester city coroner regarding the death of one of the sufferers from arsenical poisoning is concluded. The jury returned an open verdict, to which a rider was added that a vote of censure should be passed on Messrs. Groves and Whitnall, Limited, the brewers, Messrs. J. Nicholson and Sons, Limited, the sulphuric acid manufacturers, Dr. Morris, the consulting chemist, and Mr. Cook, works chemist to Messrs. Bostock, for carelessness. This, as the coroner said, is practically a verdict that death was due to poisoning by arsenic. He said, moreover, that he did not embody the censure in the verdict because it was a rider. He agreed with a remark of Mr. Fletcher Moulton that there was no evidence of carelessness on the part of the brewers. In his address to the jury the coroner said that the thanks of the whole community were due to Dr. E. S. Reynolds for the part he had taken in the case. He also

thanked Mr. C. H. Tattersall for the prompt and decisive action which he took.

Prestwich Union.

At the meeting of the Prestwich Board of Guardians on Jan. 17th, the overcrowded state of the workhouse was again the subject of discussion. During the previous fortnight there was a remarkable increase in the number of tramps admitted—from 69 to 200. No explanation of this seems to have been given, but doubtless the chronic or professional tramps have their seasons of migration like the swallows. There has been no exceptional severity of the weather to account for it; on the other hand, the weather has been unusually mild. There was also an increase of 50 people in the workhouse as compared with the previous year, and in the hospital some of the patients "had to sleep in a passage in the absence of room for them in the wards." As regards out-door relief, 3030 persons had been relieved during the fortnight as compared with 2589 in the corresponding period of last year. Yet this is said to be a time of great prosperity. The question of extending the buildings is to be considered. Mr. Jenner Fust had written to ask if anything had been done with regard to taking the children out of the workhouse. In answer to this inquiry it was said that "by arrangement with the Manchester guardians the indoor children ..... were sent to the Swinton schools and that there were no children in the workhouse over the age of four years." All who know the excellent management of the Swinton schools will be ready to acknowledge that they are a great improvement on any workhouse. At the same time, they must be looked upon as barrack schools, though of the highest class, so that there cannot be much approach to family life, and the small children must feel, though perhaps they would be unable to express, the lack of the personal interest and individual affection which even a foster-mother may give where she has only a few in her care. Then, too, the imbeciles and epileptics are a difficulty. The chairman said that till the former can be removed from the workhouse, or the workhouse can be enlarged, the classification of the inmates wished for by the Local Government Board cannot be carried out. One member hoped that in any scheme of extension proper provision would be made for these two classes who are "at present herded together, which ought not to be." This discussion showed that there was a wish to improve matters, but it ended with deferring "the consideration of further extension of the workhouse buildings till the new board has been elected in March."

Chorlton Union.

The guardians of the Chorlton Union met on Jan. 18th, and their proceedings, like those of their colleagues at Prestwich, show how humane is the feeling now actuating those who have the care of the very poor. A letter had been received from Mr. Jenner-Fust containing inquiries similar to those sent to the Prestwich Board of Guardians. It was stated in reply that as regards the children as many as possible were removed to the cottage homes at Styal, and that when certain extensions were completed the children still remaining in the workhouse would be taken there. The old men and women had been placed in a separate part of the workhouse and the men were allowed to go out every afternoon. The pauper suit had been abolished—which must be a comfort to sensitive souls, if any such are left. The guardians were "also anxious to provide room for aged married couples to live together." The question of the new dietary order of the Local Government Board was also considered. The reply was to the effect that the medical officer of the workhouse was quite satisfied with the dietary table now in force; that the new dietary would probably cost an additional £1000 a year; that it was not needed in the union and that it was not asked for by the Poor-law guardians of the country; and that they "were in favour of the new order being made optional till it had been proved practicable from its working by some unions in both urban and rural districts." *Fiat experimentum*, &c.

Manchester Union.

The Manchester Board of Guardians recently had to consider a letter similar in purport to those received by the Prestwich and Chorlton boards. The recommendations were: (1) That children should be removed from the workhouse; (2) that where out-door relief was granted to aged deserving persons it should be adequate in amount; and (3) that aged deserving inmates should be classed separately and should be granted special privileges. As to the first point the chairman said the great majority of the children were at the Swinton schools, and when some new arrangements were completed, all but the infants and the sick would be sent there. They were also meeting the wishes of the board as to the second point; and as to the third, should new arrangements for the removal of imbeciles and epileptics from the workhouse be made, either by the erection of a joint asylum or otherwise, the space so gained would enable the guardians "to proceed further in the direction of classification of the aged deserving inmates."

"Manchester Wheelers'" Generosity.

The body of cyclists known as the Manchester Wheelers at their annual meeting held about a fortnight since voted a sum of £50 to the Children's Hospital, Pendlebury.

Salford City Hospital.

At the meeting of the board of the Salford Hospital on Jan. 17th, the chairman reported the receipt of a donation from Mrs. Charlotte M. Pilkington, of Llandudno, of £1250, for the endowment of a bed to be called the "Hope" bed. A vote of thanks was passed.

Jan. 23rd.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Unqualified Practice censured by a Coroner.

THE disastrous results which so often follow the treatment of an injury by a "bone-setter" were conspicuously manifested at an inquest held at Merthyr on Jan. 18th. On the Saturday evening prior to last Christmas Day a young collier was carrying home a four and a half gallon cask of beer for consumption on Sunday. Incidentally I may remark that one result of the closing of public-houses in Wales on Sunday is the joint purchase on Saturday by two or three colliers of a small cask of beer which is usually emptied before Monday. The Merthyr collier dropped the cask on to his left foot and caused a compound fracture of the left toe. Instead of consulting Mr. T. J. Webster, the colliery surgeon, he went to a bone-setter named Price who, it appears, has a sufficiently large connexion to enable him to engage as his assistant his son-in-law who up to a few years ago worked as a collier. Price treated the wound with ointment, oil, &c., until the joint became gangrenous, when the patient was persuaded to go into the hospital where he died from septicæmia. The coroner, when summing up the evidence given at the inquest, spoke of the treatment of the bone-setter as "botching" and said: "I consider these kind of men are absolutely irresponsible people and they do a great deal of mischief. I am continually hearing of cases in which they make a terrible mess of patients, and I firmly believe that if a properly qualified doctor had attended this case at the commencement there would have been a very good chance of saving this man's life." It is particularly pleasing to be able to record these remarks of Mr. R. J. Rhys a legal coroner.

Medical Appointments at Swansea.

The Swansea board of guardians have decided to appoint a resident medical officer to the workhouse, and according to the report in the local newspapers it is proposed to engage a "young medical practitioner" at a salary of £100 per annum. The board has been well advised in adopting a qualifying prefix, for the salary offered is not very likely to attract a practitioner of much experience, and it is not improbable that the Swansea board may have as much difficulty in obtaining the services of a medical officer as the Bristol corporation who obtained no response to their advertisement for a medical superintendent of the Ham-green Fever Hospital, and have been obliged to raise the salary offered from £100 to £150 per annum. The guardians also propose to appoint a medical officer for No. 1 district of the Swansea Union who shall devote the whole of his time to the duties of his office and shall be paid at the rate of £120 per annum, together with the vaccination fees which are estimated at £200. This stipend can hardly be said to err upon the side of liberality.

Crematorium near Cardiff.

The crematorium which has been recently erected at Hull is not the first municipal crematorium to be established in England and Wales. Only last year the Cardiff corporation

through their medical officer of health drew public attention to the fact that cremation could be carried out in the crematorium on Flat Holm Island, which has been in an efficient state since 1895.

Police Surgeons in Cardiff.

There has hitherto been only one police surgeon for the whole of Cardiff and for some years the post has been held by Dr. T. Wallace. In consequence of the great increase in the size of the town the watch committee has now decided to appoint three surgeons, each with a defined area. One of these is to be chief surgeon and in addition to his divisional duties he will be required to examine police recruits and to examine lunatics if requested to do so by the magistrates. The druggists in the borough were desirous of dissociating the dispensing of drugs from the duties of the police surgeons and urged the appointment of three police druggists, but the watch committee would not entertain the suggestion.

Death-rate of Caerleon.

The unusually low death-rate of eight per 1000 is reported from Caerleon in Monmouthshire for the year 1900.

Remuneration of Colliery Surgeons.

The medical practitioner of to-day amongst the mining class is not so happily circumstanced as formerly, when the doctor, the parson, and the manager were regarded as the three important personages in each colliery township or village, and all lived in contentment and happiness. To-day, however, when the colliers have forced into them all the ethics and vocabulary of paid agitators and are tutored in all the seductive influences of socialism they become discontented among themselves and adopt an attitude of tyranny towards any persons whom they may have in their power. In several parts of South Wales and Monmouthshire, especially where the poundage system is in vogue, disputes are pending on the ground that the medical man earns too much money. At present the rate of wages are exceptionally high, and upon this basis the amateur statistician computes the salary of the colliery surgeon. He gives little or no thought to the recent five months' strike when the medical fees were *nil*, though drugs and assistants had to be provided. Now that an opportunity arises for recouping the loss then entailed the men agitate for a reform in the mode of payment. Noticeably is this the case at Tredegar, where Mr. G. A. Brown practises, and at Cwmsiflog, where Mr. R. T. E. Davies holds the appointment of colliery surgeon. In each of these districts the colliers wish to appoint a surgeon at a fixed salary and to themselves defray all the expenses of drugs, assistants, &c. The colliery surgeons, on the other hand, prefer to be paid by a poundage—usually 3*d.* in the £1—upon the men's earnings and to discharge all the expenses of the practice.

North Devon Infirmary, Barnstaple.

At the quarterly meeting of the governors of the North Devon Infirmary held on Jan. 15th it was decided that the salary of the house surgeon should be £80 instead of £120 as formerly. There was a considerable discussion in which it was urged that the reduction would be mistaken economy and there was an amendment that the salary be £100. The former house surgeon had received £50 for acting as secretary to the infirmary, but it was determined in future that an honorary secretary be appointed, £20 being allowed for the assistance of a clerk.

West Cornwall Dispensary and Infirmary, Penzance.

The annual meeting of the friends of the West Cornwall Infirmary and Dispensary was held on Jan. 16th, under the presidency of Prebendary Hedgeland. The report stated that 1629 out-patients had been treated during 1900, as against 2171 in 1899; 115 in-patients had been admitted, as against 165 in the previous year; and 68 patients had been sent to the convalescent home. The financial statement showed that the income amounted to £882 and the expenditure to £879. The income of the convalescent home had been £403 and there was a favourable balance of £88.

Bath Eastern Dispensary.

The annual meeting of the friends of the Bath Eastern Dispensary was held on Jan. 17th, under the presidency of the Mayor of Bath. The medical report stated that 4364 patients had been treated during the year, including 899 patients who had been attended at their homes. The financial statement showed that the income amounted to £636 and that a favourable balance of £61 remained. The committee added that there had been considerable difficulty in obtaining the services of a resident medical officer owing to the war in South Africa, but recently Dr. W. H. Lowman had been appointed, and Mr. O. A. G. Collins had kindly performed the duties during the vacancy.

Health of Cornwall.

The report of the sanitary committee of the Cornwall County Council for 1900 shows that during the year the birth-rate was 24·4 per 1000, as against 24·4 in 1899. The general death-rate was 16·4 compared with 15·8 in the preceding year. The zymotic death-rate was 1·01 per 1000, which is practically the same as in 1899. The slight increase in the death-rate is attributed by the committee to the severe epidemic of influenza in the early part of 1900.

Jan. 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Urban Mortality in Scotland in 1900.

THE estimated aggregate population of the eight principal towns of Scotland at the middle of 1900 was 1,606,935. The series of the Registrar-General's monthly reports applicable to these towns being now completed for the year, an examination of them shows that during that period the total number of deaths was 33,368, or at the rate of 20·76 per 1000 inhabitants. Of the deaths 16,393 occurred in Glasgow, 5878 in Edinburgh, 3391 in Dundee, 2864 in Aberdeen, 1230 in Leith, 1608 in Paisley, 1298 in Greenock, and 706 in Perth. The respective annual rate of mortality on the estimated population of the individual towns was as follows per 1000 inhabitants: Glasgow, 22·03; Edinburgh, 19·44; Dundee, 20·24; Aberdeen, 19·05; Leith, 15·67; Paisley, 20·55; Greenock, 21·10; and Perth, 22·91. Of the 33,368 deaths, 4543 were due to specific febrile or zymotic diseases, three to parasitic diseases, 155 to dietetic diseases, 6355 to constitutional diseases, 2454 to developmental diseases, 17,027 to local diseases, 1396 to violence, and 1435 to ill-defined or not specified causes. Of the aggregate general mortality 12,079 were deaths of children under five years of age. With regard to the more familiar zymotic diseases, measles was marked in April, June, and July in Glasgow; in November and December in Aberdeen; in January, February, March, and July in Paisley; and in January in Perth. Whooping-cough prevailed in Glasgow in April, May, June, July, August, November, and December; in Aberdeen in May; in Paisley in March and July; in Greenock in August, September, October, November, and December; and in Perth in January, February, and March. Influenza was marked in Edinburgh in February, in Aberdeen in January and February, in Paisley in January, and in Perth in February and March, while enteric fever was prevalent in Paisley in September.

Edinburgh University Court.

At a meeting of the Edinburgh University Court on Jan. 14th the following were appointed additional examiners for the medical degrees:—Mr. J. Bretland Farmer (botany), Dr. John Gibson (chemistry), Dr. Robert Howden (anatomy, including anthropology), Dr. D. Noel Paton (physiology), Dr. William Russell (pathology), Dr. John C. M'Vail (medical jurisprudence and public health and sanitation, sanitary law, and vital statistics), Dr. Allan Macfadyen (public health laboratory work), Dr. John Shaw McLaren (surgery), Dr. James O. Affleck (practice of medicine), Dr. Alexander James (clinical medicine), and Dr. John W. Ballantyne (midwifery).

Cremation in Scotland.

The annual meeting of the Scottish Burial Reform and Cremation Society was held in Edinburgh on Jan. 16th, Professor Sir Henry Littlejohn being in the chair. Sir Henry Littlejohn, in moving the adoption of the report, which has been already alluded to in these columns, said that in 1865 Professor Sir James Simpson directed his attention to the evils connected with the intermural interments and was exceedingly anxious to have a crematorium established. Sir James Simpson fixed on Hunter's Bog as a suitable site, but public opinion was strongly opposed to such a violation, so to speak, of the sanctity of that spot. Sir James Simpson had also expressed to him

his determination to be cremated. Sir Henry Littlejohn then went on to relate how, through the request of Dr. Robert Lee, he had been induced to investigate the condition of Greyfriars Churchyard and how, as the result of his investigations, the town council at once agreed to the closure of that burying-ground. One churchyard after another was taken up and closed, ending with that of St. Cuthbert's. As one of the directors of the society he had carefully examined the crematorium at Glasgow and had been much pleased with what he had seen and with the manner in which the operation of cremation was carried out there.—The report submitted by the honorary secretaries stated that the number of cremations in Scotland showed a steady yearly increase, the total number since the opening of the crematorium at Glasgow being 75. Dr. Ebenezer Duncan, speaking in favour of the adoption of the report, said that the late Duke of Argyll left definite instructions that his body was to be cremated, but these instructions were disregarded by his relatives; also that the late Marquis of Bute would have warmly advocated cremation if the Church of Rome had withdrawn its opposition.

Appointment of Medical Officer of Health of Leith.

The post of medical officer of health of the burgh of Leith, which had been rendered vacant by the resignation of Dr. W. Leslie Mackenzie on his appointment as medical superintendent under the Local Government Board, was filled up on Jan. 17th at a special meeting of the Leith Town Council by the appointment of Dr. William Robertson of Paisley. The new medical officer of health will begin his duties not later than Feb. 15th at a salary of £400 per annum.

The Scottish National Red Cross Hospital.

The medical and surgical officers of this hospital who have recently returned from South Africa were entertained at a complimentary dinner in Glasgow on Jan. 18th. The Marquess of Breadalbane, K.G., occupied the chair and there was a large attendance of medical men, including Professor Chiene, Dr. G. T. Beatson, Professor H. E. Clark, Dr. John M. Cowan, Dr. John Aitken, Dr. Alexander Garrow, Dr. Robert Stirling, Dr. George M'Intyre, &c. In reply to the toast of "Our Guests, the Officers of the Hospital Staff," Colonel Cayley, R.A.M.C., Commandant, and Professor H. E. Clark gave an account of the work performed by the hospital and referred generally to the demands made on the medical profession by the conditions of war. Sir David Richmond, a member of the South African Hospital Commission and a former Lord Provost of Glasgow, bore testimony to the excellent work performed by the Scottish Hospital which he had visited at Kroonstad. In the afternoon of the same day a reception was held by the Ladies' Executive Committee to meet the nurses of the hospital. This also was largely attended. The main credit of the organisation of the Red Cross Hospital is due to Dr. G. T. Beatson and Dr. Donald Mackintosh who by their enterprise and public spirit secured an appropriate method in which the patriotism of the Scottish people could express itself. At one time some petty local jealousies threatened to interfere with the success of the movement, and though these were not altogether allayed they exercised no practical effect on what was really a national enterprise. The best testimony to the satisfactory equipment of the hospital was the fact that the Government offered to purchase it as it stood. In reply to this offer the committee resolved to present it as a free gift on condition that it was continued under the name of the Scottish National Red Cross Hospital, and it is on these terms that, with some members of the original staff, the hospital now remains in South Africa.

Interesting Legal Case.

A medical man in Glasgow has recently acquired a house in one of the residential terraces in the west-end of the city which he proposes to use as a private hospital or nursing home and has found himself in consequence involved in legal proceedings, for the proprietors of the neighbouring dwelling-houses object to his scheme and have sought to frustrate it by an action in the Court of Session. In this, however, they have not been successful. Their case was based upon an agreement which provided that the buildings erected on the ground concerned "shall permanently continue as dwelling-houses and shall not be converted into shops, warehouses, or trading places of any description," and they contended that the proposed use of the house amounts to the conversion of it into a trading place for the purpose of money-making. They also urged that "the unpleasant sights and sounds, as well as the unpleasant odours of antiseptics and drugs, the great traffic entailed by the arrival and departure of patients, nurses, consulting doctors, friends of patients, and [most unkindly] undertakers" constitutes a nuisance in such a neighbourhood. In reply the defender denied that any nuisance would be created and stated that the house "was not intended to be a direct source of profit." He therefore claimed that there was no breach of the agreement preventing the establishment of a trading establishment, and for this contention he has now received the sanction of the law.

University of Glasgow.

The official statistical report for the year 1899–1900 has just been issued. It contains, as usual, a full list of the University officials and their salaries, and numerous tables showing the number of the students in the various classes and the graduates in the different faculties. In medicine there were 221 degrees conferred. Three of the M.D. graduates were awarded "Honours" and six received "Commendation." Only one M.B. gained the highest distinction, but six were "commended." Amongst the benefactions received during the year are a sum of £11,000 from the trustees of the late James B. Thomson, to be applied in the reconstruction of the anatomical department; a sum of £1000 given by Lord Kelvin, to be used for the encouragement of experimental investigation; £2500 from the late Rev. Alex. Robertson to found a lectureship in defence of the Christian religion; and numerous smaller amounts for the establishment of bursaries, prizes, &c.

Hospital Sunday in Aberdeen

The results this year have been rather disappointing, as there were collections in more churches than was the case last year. The total amount subscribed up to date is about £1200.

Outbreak of Small-pox in North Scotland.

Several cases of small-pox have been discovered in Burghead (on the Moray Firth) and Elgin, and the infection has been traced as coming from Glasgow. Three cases have also occurred in Aberdeen since the beginning of the year.

Epidemic of Small-pox in Glasgow.

Glasgow is suffering from a somewhat severe epidemic of small-pox. Upwards of 50 fresh cases have occurred since yesterday, making a total of 253.

Jan. 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Local Government Board and the Isolation of Tuberculous Patients.

THE Irish Local Government Board have notified the Downpatrick Board of Guardians that, having regard to the infectious nature of pulmonary tuberculosis, it was, in their opinion, highly desirable that provision should be made in workhouse infirmaries for the treatment of persons suffering from this disease in separate wards—that was to say, wards to which patients otherwise affected were not admitted. The guardians have been requested to be so good as to give this matter their early and careful consideration. The inspectors of the Board have from time to time called attention to the matter and the guardians are now strongly advised to have steps taken to isolate consumptive patients. The medical officer of the workhouse was on Jan. 12th directed to prepare a report on this most important question for the guardians.

Medical Fees.

One of the frequently discussed questions in medical circles came up for a legal decision before the Recorder of Belfast on Jan. 10th. Dr W. Calwell, of Duncairn-gardens, Belfast, sued a man in his neighbourhood to recover one guinea "for professional services rendered." Dr. Calwell had been engaged to attend the wife of the defendant at the time of her confinement, but when this occurred he was not called in, a practice apparently common enough among the working classes. Evidence having been given Dr. Calwell was nonsuited on a technical point, as he based his action "for services rendered" instead of upon a "breach of contract." It is a pity that such an unsatisfactory conclusion was arrived at, as medical men are sometimes put to

great inconvenience and distinct loss by treatment such as Dr. Calwell received in this case.

Bangor Dispensary, County Down.

Mr. J. F. Mitchell, of Newtownards, has been elected dispensary medical officer for the Bangor district of the Newtownards Union at a salary of £110 per annum, and £14 per annum as medical officer of health to the Bangor Rural District, and £10 per annum as medical officer of health of the Urban District of Bangor, together with vaccination and registration fees.

The Belfast Lunatic Asylum.

At the monthly meeting of the committee of this asylum held on Jan. 14th the resident medical superintendent, Dr. William Graham, submitted a valuable report upon the villa or colony type of construction, in which he pointed out that the special features in this type of asylum construction are the segregation of the inmates into communities, where they live in more domesticated and home-like style than would be possible in a large building. The accommodation for patients consists of two sections, one a hospital with special arrangements and the other a congeries of villas with simpler arrangements. The advantages claimed for this system are: (1) more homeliness and less institutional character; (2) more careful classification of patients; (3) lessened cost of construction; and (4) facility for enlargement. Two great advantages of the villa type are: (1) a small part may be erected and occupied bit by bit before the completion of the whole; and (2) in case of enlargement a villa or villas can be added as required without any disturbance of existing arrangements. An animated discussion followed, and it was finally decided to print and circulate the report among the members of the committee and to consider the matter at the next meeting of the committee, the medical superintendent in the meantime to collect all possible information in regard to the matter. At the same meeting the report of the inspector of lunacy, Mr. G. P. O'Farrell, was brought forward, in which it was pointed out that the overcrowding on the female side of the asylum was very serious, and that the necessity for relieving it had become pressing and urgent. While the estate at Purdysburn had been acquired five years ago no steps had yet been taken towards the actual building of any part of the new asylum. Although all credit was due to the medical superintendent for his efforts to modernise the old building, yet nothing, the inspector said, could materially alter the back part of the asylum, which was dingy and cheerless in the extreme, and it was here that the larger part of the accommodation was situated. When the forward condition in Scotland in reference to the treatment of the insane was contrasted it was remarkable how little a desire for progress pervaded the general population of the North of Ireland. Unless some definite action was taken in reference to the female patients he (Mr. O'Farrell) could not report to the Lord-Lieutenant that the committee had fulfilled the duty of providing and maintaining sufficient accommodation for the lunatic poor of the city which was imposed on them by the Local Government (Ireland) Act, 1898, and the fulfilment of which duty was made a condition to the payment of the Government grant in aid of maintenance. The inspector regretted that pulmonary phthisis (the most fatal of all diseases amongst the insane in Irish asylums) showed a tendency to increase, as might be expected in an old and overcrowded institution. This report of the inspector, so serious in the faults which it points out in the present condition of the asylum, it has been arranged shall be considered at the next meeting of the committee. It is to be hoped that, taken in connexion with the report of the medical superintendent on the villa type of asylum, we shall in the end have in Belfast an asylum constructed on modern lines worthy of the city and of the North of Ireland.

Jan. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Magnetisers officially declared to be Illegal Practitioners.

THE medical profession has, from a professional point of view, recently won a signal victory in the law courts—a victory, too, which is all the more gratifying because such victories are so rare. The Court of Cassation has given a final judgment in a matter which has been undecided for years, and has pronounced that persons who treat illnesses by magnetism without possessing the degree of doctor of medicine are guilty of the offence of illegal practice. Hitherto the law on the point has been very indecisive from the legislative point of view. The law of 1892, which laid down regulations for the practice of medicine in France, says absolutely nothing about magnetisers—a fact all the more singular when it is remembered that these gentry had several times been mentioned in the course of the Parliamentary debates which preceded the passing of the law. On this account the courts of law, in the event of a magnetiser being prosecuted for illegal practice, gave the most contradictory judgments. In 1893 the Tribunal of the Seine convicted a magnetiser and found him guilty of illegal practice. In 1894 a woman was convicted of the same offence by the Tribunal of Mans, but she appealed to the Angers Court of Appeal, which acquitted her, giving as its opinion that she was not guilty of illegal practice because she used neither drugs nor surgical manœuvres. This judgment had the result of filling the whole district with magnetisers who pursued their industry unchecked. In 1896 a magnetiser, by name Mouroux, who was prosecuted by the Medical Association of Angers, was acquitted by the Correctional Tribunal of that town; the association appealed to the Angers Court of Appeal, which, however, only confirmed the judgment. The Union of the French Medical Associations came to the aid of the Angers association and the case was carried to the Court of Cassation so that a final judgment might be obtained in a matter affecting the whole medical profession. The Court of Cassation, however, had its hands quite full with the Dreyfus *affaire* and took four years to decide the question. During the interval, however, in 1898, a magnetiser was convicted by the Tribunal of the Seine. At last, on Dec. 28th, 1900, the Court of Cassation delivered judgment in the Mouroux case. The counsel in charge of the case (*conseiller rapporteur*) had decided in favour of the magnetiser, but the court, evidently influenced by the remarkable report laid before the recent Congress of Deontology by M. Dupré and M. Rochet, had no hesitation in giving judgment against magnetism. As a matter of fact the situation was very delicate. The magnetiser argued that as all medical men declared that the practices of his fraternity were pure charlatanism and of no value whatever, he and his colleagues employed no real medicaments and that therefore they could not be guilty of illegal practice. True, they might be accused of swindling, but it would be necessary to prove that they had demanded money from patients—a thing almost impossible to confirm and one which would need a careful consideration of every particular case. The counsel for the medical associations got out of the difficulty very cleverly. He argued that magnetism was a therapeutic agent of the very first order, one which should not be used except by skilled hands and the use of which should be forbidden to those who had not a medical diploma. It certainly cost the dignity of the medical profession something to allow such honour to the fantastic gesticulations of magnetism, but it was the only way in which to arrive at the desired result—namely, the forbidding of magnetisers to "practise."

Muscle Serum.

At the meeting of the Academy of Sciences held on Dec. 31st M. Riche proposed to call by the name of "muscle serum," or "myoserum," the juice obtained by pressure from meat, which is, according to him, the sole portion of the raw meat gifted with curative properties as regards experimental tuberculosis in the dog. Using raw beef in a strong press 33 per cent. of juice can be obtained. It is a red fluid, amphoteric or feebly alkaline in reaction, and coagulable by heat or nitric acid. Besides mineral matters one kilogramme contains about 50 grammes of albuminoids, of which 10 per cent. is hæmoglobin. Despite its richness in albuminoids the serum passes through filter paper like water and so can be easily freed from its fat and formative elements. It is very unstable and even if kept at a temperature of 0° C. putrefies in a few days. In summer at ordinary temperatures it undergoes change within an hour or two. It must therefore be used as soon after preparation as possible. Administered by the mouth to dogs in doses of 20 cubic centimetres per kilogramme of body-weight it brought about a cure in cases of experimental tuberculosis. Given subcutaneously or intravenously it is very toxic and a dose of five or even three cubic centimetres per kilogramme of body-weight brought about a very notable

lowering of blood-pressure. The animals vomited and had bloody diarrhœa, dying in from 24 to 48 hours, or sometimes less, in a state of coma. Post-mortem examination showed intense congestion of the intestines and of the liver; the coagulability of the blood was not altered, neither were the kidneys affected. When coagulated by heat the serum was found to be not toxic.

Separate Wards for Noisy or Delirious Hospital Patients.

A recent meeting of the Hospital Medical Society was the scene of an informal discussion as to the best remedy to be found to prevent those deplorable cases in which delirious patients try to commit suicide, attack their fellow sufferers, or attack the nurses. M. Le Gendre suggested that in every hospital there should be a special ward for such patients, so that they could be carefully watched. As a matter of fact no such facility exists. If a patient goes out of his mind and his state of health permits he is sent to a lunatic asylum and the ease with which such transference is made on a simple order of the head of the hospital has given rise to some objections which are quite justified. The custom is unjust to ordinary lunatics who require various certificates before they can be placed in the asylum. Only too often the head of a hospital simply gets rid of a troublesome patient by sending him to an asylum, and very often such patients are unfairly tainted with the stigma which attaches to anyone who has become a definitely certified lunatic. On the other hand, there is no doubt that noisy or delirious patients, whether suffering from the delirium of fever, from post-operative mania, or from puerperal mania, are a constant source of danger to themselves, to other patients, and to the nurses. The society was in perfect accord with the proposal of M. Le Gendre and various speakers related instances of the imperfect arrangements existing at the hospitals with which they had to do. M. Chauffard said that things were so bad at the Cochin Hospital that visitors were not allowed. M. Barth said that at the Necker Hospital there was but one male night superintendent and one female, and added that the organisation of the hospital was as bad as before the Revolution except that they no longer put two or three patients into one bed. A complete plan of reform should be drawn up and submitted to the Assistance Publique. M. Le Gendre, however, preferred to demand reforms one by one as a plan more likely to meet with success, and the society accordingly resolved that every hospital should provide a ward for the isolation of those temporarily mentally afflicted and that copies of this resolution should be at once forwarded to the Director of the Assistance Publique, to the Municipal Council, and to the Minister of the Interior. A committee was also elected to deal with the question of hospital reform, composed of M. Millard, M. Faisans, M. Troisier, M. Le Gendre, M. Chauffard, M. Barth, and M. Beckler.

Jan. 21st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Tetanus following Injections of Anti-diphtheritic Serum.

THE greatest consternation has been caused during the past week throughout Northern Italy by the occurrence of a number of deaths from tetanus following upon the injection of anti-diphtheritic serum. It appears that diphtheria has of late been very prevalent in Lombardy and Venetia, and a large demand had in consequence arisen for the curative serum prepared by the Istituto Sieroterapico of Milan. The first alarm came from Valdobbiadene in the Province of Treviso, where four children who had been treated for diphtheria with the serum fell victims to tetanus. Reports of similar tragedies followed from Chiudino in Bergamo, from Prato Sesia and Boca in Novara, from Brescia, and from Milan itself, making a total of some 20 cases, all of which had been injected with serum from the above-mentioned institute. The Government promptly ordered the serum to be seized wherever it could be found and set on foot a searching inquiry in order to discover how it came to be contaminated. At present there are only surmises on this point, but it has been already ascertained from the register of the institute that the serum used in most of the fatal cases belonged to one particular lot, decanted on Nov. 22nd from a flask containing three litres into a series of 306 viale, each of wh[illegible] was closed, sealed, and numbered, and the whole of which were consigned to the firm of Erba of Milan, by whom again they were distributed to purchasers in the same condition as that in which they had been received from the institute. One case of tetanus, that at Milan, appears, however, to have been injected with serum prepared towards the end of December. Many more injections are known to have been made in the last few days with serum belonging to the same suspected stock with results which will doubtless prove equally disastrous. The Istituto Sieroterapico of Milan, which would thus seem to be responsible for a terrible mistake, is under the general direction of Professor Belfanti, assisted by Dr. Airoldi and Dr. Zenoni, to the latter of whom is entrusted the preparation of the anti-diphtheritic serum. When visited by the Inspector-General of Sanitation, Santoliquido, everything in the institute appeared to be in perfect order and a minute investigation will evidently be necessary to disclose the origin and author of the fatal blunder. Fortunately a sample was preserved of each lot of serum as it was prepared, so that it will be possible to subject to microscopic, chemical, and bacteriological analysis all that has been issued from the institute and so to discover any that may have been contaminated, and this is now being done. So far no tetanus bacilli have been detected in the suspected serum and it is thought that the symptoms to which its injection into the diphtheria patients gave rise may have been caused by tetanus toxin alone. As is only natural, under the fear inspired by these fatalities many parents have already refused to allow their children to be treated with antitoxin injections—a very deplorable fact in view of the prevalence of diphtheria and the undoubted value of good serum in its treatment. The Superior Council of Sanitation have under consideration a law for regulating the manufacture and sale of serum, vaccine virus, &c., with the object of preventing the occurrence of such fatal mistakes in the future.

The Proposed Amendment to the Law regulating Foreign Practice in Italy.

The exact scope of the alteration proposed in the present law relating to foreign practitioners will be seen from the subjoined translation of the new clause of the Bill which has now been presented by Santini for the approval of the Chamber of Deputies. The article in the sanitary law under which foreign practice is now sanctioned, after forbidding the exercise of the profession of medicine, &c., to those who have not been duly qualified by some authorised licensing body in Italy, concludes as follows:—

> From this prohibition are excepted foreign physicians and surgeons expressly called for special cases, and those who, possessing the diploma of a foreign university or school of medicine, exercise their profession among foreigners only.

The proposed law substitutes for this clause the following:—

> From this prohibition are excepted foreign physicians and surgeons expressly called for special cases or attached exclusively to the service of a particular person or family whom they accompany in travelling, and those who, possessing a diploma of a foreign university or school of medicine, exercise their profession among their compatriots only, always provided, however, that they [i.e., the foreign physicians and surgeons] belong to a State which accords to Italian physicians and surgeons reciprocity of treatment in regard to academic degrees and freedom of practice.
>
> On the same conditions as the above those foreign physicians and surgeons are also excepted who possess diplomas of universities or schools of medicine considered by the Superior Council of Public Instruction as equivalent to those conferred by the universities or schools of medicine in Italy.

Jan. 16th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Plague in Constantinople.

ON Jan. 7th a man died here with symptoms of bubonic plague. The deceased, who was a boatman in the service of the police, fell ill at Beïcos, a village on the Asiatic shore of the Upper Bosphorus, and for about eight days lay at a coffee-house, where he was examined by several medical men who considered the disease to be pneumonia due to influenza which is at present epidemically prevalent in Constantinople. Ultimately he was conveyed by his friends to Scutari, a suburb of Constantinople, and a bubo was there found in his left groin. The authorities then removed him to

the hospital of the Civil Medical School at Katirza, where he died in a few hours. When medical men from the Bacteriological Institute arrived for the purpose of making a microscopical examination of the contents of the bubo it was found that rats had entered the room where the body lay and had eaten the left side of the mouth, a portion of the left cheek, and the external genitals. The pulp of the bubo contained an enormous number of plague bacilli. All the places at which the deceased had stayed and the steamboat on which he had travelled from Beicos to Scutari have been disinfected, the small boats used for his conveyance from Scutari to Katirza have been burned, all persons who have been in contact with him are under strict observation and their wearing apparel has been burned, the officials of the hospital have received injections of anti-plague serum, and the hospital as well as the medical school has been surrounded by a sanitary cordon. But the rats! It has several times been proposed at the International Sanitary Commission that a stock of the Danitz culture for the destruction of rats should be brought from Paris, but this has not yet been done. In Russia, Roumania, Bulgaria, and Greece arrivals from Constantinople are now subjected to disinfection and 10 days' quarantine. The International Sanitary Committee was convoked three times last week in order to consider the measures to be taken for preventing the spread of the disease. At these meetings a feeling was expressed that the city ought to be thoroughly cleansed, that the inspection of dead bodies should be better attended to, that careful observation should be kept upon places of public resort, such as refreshment houses, cafés-chantants, and bazaars, and that the public closets should be cleansed and supplied with disinfectants. The British sanitary commissioner, however, declared that it would be very dangerous to have a thorough cleansing of the city, and the sanitary commissioner of the United States of America proposed that the Turkish Government should be informed that it was almost hopeless to expect good results from attempts to cleanse cities where the streets are narrow, badly paved, and bordered by high buildings, and where the houses are built back to back and so disposed as to exclude sunlight and fresh air. The American commissioner thought that the Government ought to prohibit the building of back-to-back houses and he quoted the case of Bombay where great sums of money had been spent almost to no purpose in cleansing and disinfecting; but the council did not take action in accordance with his proposals because it would obviously be a long time before the good effects of such measures could make themselves felt.

Public Health of Constantinople.

Constantinople is a city which in many respects falls short of the requirements of modern hygiene. The houses are badly built, and there are very few of them which the sun enters; the streets are exceedingly narrow and not paved, except some of the principal ones; and the water-supply is very bad, although the charge made to the consumer is high. It is indeed astonishing that the death-rate is not greater than it is. The number of the inhabitants is not exactly known, but it is estimated at about 800,000. The number of deaths of civilians registered during the 12 months from Jan. 1st to Dec. 31st, 1899, was 12 412; the number of deaths in the army is not made known. Of these deaths 135 were due to diphtheria, 100 to measles, 196 to small-pox, 318 to typhoid fever, and 752 to acute inflammation of the lungs. From Jan. 1st to Dec. 31st, 1900, the number of deaths registered was 12 372, of which 80 were due to diphtheria, 86 to measles, 11 to small-pox, 293 to typhoid fever, and 782 to acute inflammation of the respiratory organs. During the last month of autumn there was a widespread epidemic of scarlet fever but the number of deaths from this cause is not known. The deaths from cholera infantum, or gastro-enteritis in children, were as follows during some of the months of 1900: 11 in May, 89 in June, 107 in July, 74 in August, and 24 in September. If a medical man who understood the value of statistics were at the head of the Bureau de la Mortalité of the Sanitary Board better data would be available for arriving at the death-rate of Constantinople.

Institute for Foundling Children.

On Jan. 13th (Dec. 30th, old style) a number of the destitute children of Pera had their new year fête, when the ladies who assist Dr. Zavitziano in the work of caring for the foundlings of the Greek church in Pera distributed toys and pudding. The institute for the reception of these children has now been established for nearly 12 years and has given very good results, the death-rate being comparatively low. During the epidemic of cholera infantum which prevailed from last June to the middle of September there was no death among them from this cause, a result which is perhaps attributable to the treatment by cold baths.

Murderous Attack on a Medical Man.

It is announced that Dr. Sakellarios (the attempt on whose life was mentioned in THE LANCET of Jan. 12th, 1901, p. 142) is now better and will probably be soon able resume practice.

Medicine under the Greek Emperors.

At two of the last meetings of the Biological Section of the Greek Literary Syllogos, Dr. Gabrielides, ophthalmic surgeon to the French Hospital, delivered two very interesting lectures on General Medicine, Medical Organisation, and Ophthalmology under the Byzantine Empire. He quoted the monk Meletius of Tiberopolis the Great in Lydia, Nemesius the archbishop of Palestine, and Photius the patriarch of Constantinople, the latter of whom makes mention of Oribasius, Aetius, Theon, and other medical writers. Dr. Gabrielides discussed the army medical service of the Empire and referred to the case of the Emperor Andronicus who fell ill with "lethargy" at Dedemoticho and was treated by the *ἀρχιάτρος* Varys. He also mentioned that Aetius was raised to the rank of nobility with title of Count of Opsikion—*Κομῆς τοῦ Ὀψικίου*—a place in Bithynia.

Jan. 15th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The United States Soldier's Tropical Ration.

SOME short time ago a board was appointed by the United States Government to report to the Secretary of War upon the tropical ration of the American troops and to recommend changes therein. A board sitting in the Philippines had advised that the fresh-meat ration be reduced in quantity, but in the report of the board recently handed in to the Secretary this suggestion was strongly condemned. The board remarked that the recommendation that the fresh-meat ration be reduced in quantity was so opposed to all the teachings of experience both in the United States and in Cuba and Porto Rico that the board was unable to accept this recommendation as conclusive without further information. As the result of interviewing a number of officers and other persons who had been in the Philippines and taking all sources of information together the board came to the opinion that no fixed reduction should be made in the meat ration. "Any ration adopted must comprise a meat, a bread, a vegetable, a seasoning, and a coffee, sugar, and fruit component, and when a careful comparison is made between the articles now composing these components, and all those suitable for the purpose, it will be readily seen that no important addition can be made to the list, and that, in fact, the articles comprising the ration must be about the same in all climates. The problem is really to find such a ration as will by substitutions among its various ingredients be suitable for all climates. Such a ration should possess the following qualifications: it should be nutritious, sufficient in quantity, easy of transportation, and should consist of as few articles as possible. It should be proof against all climatic changes and susceptible at all times to the greatest flexibility and elasticity, suitable to either the tropics or polar circle, and capable of affording such changes in diet as will be best calculated to preserve the health of the soldier under the conditions surrounding him." The most important change recommended by the board in the diet is that an increased amount of sugar be supplied and that a reduction be made in the fruit supply. There has been for years a very considerable difference of opinion among those persons who have dwelt for any length of time in tropical countries as to what is the most suitable food for white men there. Some contend that a thorough change in diet must be made to preserve good health. Others are as strongly of the opinion that if a white man in the tropics endeavours to live on the same description of food as does the native he will soon lose both energy and strength

Probably the true solution of the difficulty will be found in the happy mean, and by finding out by individual experience what diet is best suited to the climate. So far, however, as soldiers are concerned, in whose case the diet must be more or less a fixed one, the majority of those who have gained experience in Cuba and the Philippines would seem to have reached the conclusion that it would be injudicious to decrease the fresh meat ration.

Yellow Fever in the United States in 1900.

There was no yellow fever reported in the United States during the year 1900 until the month of November, notwithstanding the fact that the disease has prevailed extensively in Rio de Janeiro, in Vera Cruz, and in Havana. In November a few cases were reported in Natchez too late in the season to give rise to much alarm. The preventive measures for 1900 were commenced last winter when a medical officer of the United States Marine Hospital Service was detailed to inspect and report upon the sanitary condition of all the towns of Central America both on the Pacific and Atlantic coasts. At Havana, says the Marine Hospital Service report of Dec. 22nd, 1900, where the disease has prevailed extensively and is still prevailing, the maritime quarantine regulations have been enforced by officers of the service. As a precautionary measure a camp was re-established in Florida. Regarding the cause of yellow fever the findings of the Commission of the Marine Hospital Service, identifying the bacillus icteroides of Sanarelli as the causative agent, have been approved (remarks the report referred to above) by a number of contributed articles in the medical press and have also excited opposing statements. Based upon entire confidence in these findings eight horses are being subjected under the direction of officers of the Marine Hospital Service to immunising inoculations with the view of obtaining a curative and prophylactic serum similar in its action to that for diphtheria. A United States Army Commission, whose members are working at Havana and who have recently published the conclusions they have reached so far, state that judging from the results of experiments conducted by them the bacillus icteroides (Sanarelli) stands in no causative relation to yellow fever, but when present should be considered as a secondary invader in the disease. These statements are wholly conflicting and time alone can prove whether Sanarelli's discovery should be discredited or shall stand as a monument to his fame. The subject of international compact with regard to the sanitation of ports and places habitually infected with yellow fever is still receiving the attention of the Marine Hospital Service, and the Surgeon-General reports so marked an interest and approval of the scheme that it is probable the matter will assume definite form for consideration in the near future.

Physique of Recruits for the United States Navy.

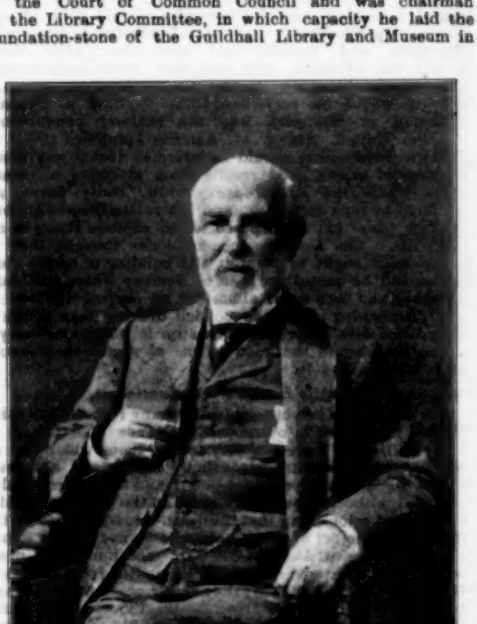
Dr. Edward R. Stitt, assistant surgeon, U.S.A. Navy, writing of the physique of recruits for the navy who came under his notice, states that he was struck by the superiority in physique of those born in the Middle States of North America over the natives of the Atlantic coast. There were noted among the recruits from the Eastern cities a large number of cases of persons who would probably develop unfitness by reason of catarrhal conditions of the throat and nose as well as from relaxation of inguinal rings, these conditions being far less frequent among the recruits from the Western States. While the most striking feature differentiating the two classes was as regards general appearance, yet the following averages, obtained from measurements, are in a degree indicative of this superiority. Of 163 men, natives of the Eastern coast cities, the averages were: age, 20·3 years; weight, 9 st. 3 lb.; height 5 ft. 6 in.; chest expansion, 3·2 inches; circumference of arm, 11 inches; and circumference of thigh, 19 inches. Among those born in the Middle West, numbering 92, the averages were: age, 20·5 years; weight, 9 st. 5 lb.; height, 5 ft. 7 in.; chest expansion, 3·4 inches; circumference of arm, 11·5 inches; and circumference of thigh, 19·5 inches. Of all the 251 recruits enlisted for one ship about a year ago, all coming from the West, the following averages pertained at the time of first examination: age, 21 years; weight, 9 st. 13 lb.; height, 5 ft. 6·6 in.; chest expansion, 3·2 inches; circumference of arm, 11·7 inches; and circumference of thigh, 19·7 inches.

Jan. 14th.

Obituary.

WILLIAM SEDGWICK SAUNDERS, M.D. CASTLETON, U.S.A., M.R.C.S. ENG., L.R.C.P. EDIN.

WILLIAM SEDGWICK SAUNDERS, who passed away on Jan. 18th, was for many years a prominent figure in the City of London. Born in 1824 at Compton Giffard, Devonshire, he was educated at King's College, London, and afterwards at St. Thomas's Hospital, a hospital over which the Corporation of the City of London exercises jurisdiction. After qualifying as M.R.C.S. in 1846 he entered the army as an assistant surgeon and served with the Royal Fusiliers in the West Indies and in North America. Returning to England he served as medical officer to the military prison at Fort Clarence, Rochester, and in 1852 sailed for service in the Kaffir war in the *Birkenhead*. On the way out he was taken seriously ill and had to be landed at the first port of call, a circumstance to which he probably owed his life, for, as will be remembered, the *Birkenhead* caught fire and sank in Simon's Bay with every soul on board of her. On his recovery Dr. Saunders resigned his commission and commenced a private practice in the City. He was soon elected a member of the Court of Common Council and was chairman of the Library Committee, in which capacity he laid the foundation-stone of the Guildhall Library and Museum in



DR. W. SEDGWICK SAUNDERS.

1870. On the retirement of Dr. Letheby, Dr. Saunders was chosen as medical officer of health and public analyst. In both of these capacities he did excellent work, and it is in great part due to the labours of himself and his staff that the City occupies to-day the high position which it does in regard to sanitation. He wrote much on cholera, both on the epidemic of 1866, during which he was medical officer of the City of London Union, and also upon the slight outbreak which occurred in 1893. Other important reports were those on the insanitary condition of St. Bartholomew's Hospital, issued in 1891, and on the insanitary state of Christ's Hospital, issued in 1893, in connexion with an outbreak of scarlet fever. He laboured incessantly to bring

about an improvement in the water-supply of the City and was also much interested in the erection of artisans' dwellings. Apart from his professional career he was a true citizen, being a member of the Broderers' Company and serving the office of Master upon two occasions. He was also a senior member of the Commission of Lieutenancy. A faithful and hard-working servant of the great City which he loved, his death leaves a blank which will be very hard to fill.

EDWARD HODGES CREE, M.D. EDIN., M.R.C.S. ENG., L.S.A.,

DEPUTY-INSPECTOR-GENERAL OF HOSPITALS, R.N.

DR. E. H. CREE, who died at his residence in Upper Holloway on Jan. 16th at the advanced age of 87 years, was in many respects a remarkable man. The first half of his professional life was spent as a surgeon in the Royal navy, in which capacity he served in the first Chinese and Crimean wars. He left the service and set up in practice in Holloway in order that his sons should receive a medical education. They became in succession students of the Middlesex Hospital. Two of them entered the navy, from which the elder son retired to join his father in practice. The other died on board ship from phthisis contracted in the discharge of his duties. Three other sons are at the present time holding commissions in the Royal Army Medical Corps—viz., Lieutenant-Colonel E. R. Cree, now in South Africa; Major G. Cree, at Gibraltar; and Major H. E. Cree, now serving in China. His youngest son is in practice at West Hampstead, whilst the only one of the seven brothers who did not follow their father's profession has been serving in Strathcona's corps in the Transvaal campaign. It is now some years since Dr. Cree himself retired from practice and lived a peaceful life to extreme old age.

Born at Stoke Damerel, Devon, on Jan. 12th, 1814, he was educated at Preston, Lancashire. In 1833, after a five years' apprenticeship to Mr. John Hounsall of Bridport, Devon, he studied at the School of Anatomy, Trinity College, Dublin, and at Edinburgh University. In 1836 he took the L.S.A. and entered the Royal navy as assistant surgeon on June 8th, 1837. After short periods of service in the flagship at Plymouth and at Malta and in the *Firefly* in the Mediterranean he was appointed to the *Rattlesnake* on Sept. 18th, 1839. He went in her to Ceylon and thence to China, where she was engaged in the first Chinese war. On April 4th, 1843, he was transferred to the *Vixen* and remained in her until July, 1846, during her operations against pirates at Borneo. In 1846, after the *Vixen* had returned to England and been paid off, he passed the M.R.C.S. Eng. and also took the opportunity to complete his medical course at Edinburgh University, where he graduated M.D. in 1847. His next ship was the *Fury*, from August, 1847, to December, 1850, serving again in the East Indies and China stations and being present at the destruction of piratical fleets in the Tonquin river (1849). After returning to England he was appointed in December, 1852, to the *Odin* and served in her till May, 1856, in the Baltic, and subsequently in the Black Sea, being present at the fall of Sebastopol. From December, 1856, to February, 1858, he was surgeon of the Coastguard ship at Falmouth, and from October, 1860, to December, 1861, in the *Orion* on the Mediterranean station. This completed his sea service. From September, 1864, to July, 1869, he was staff-surgeon of H.M. Dockyard, Portsmouth, and on July 12th, 1869, he retired from the navy with the rank of deputy-inspector-general of hospitals. During his service he obtained the following war medals: China, Baltic, Crimea, and Turkish.

We have already outlined his subsequent career. Suffice it to add that he gained the confidence and affection of a large circle of patients and passed many happy years in the daily routine of general practice. He was a man of sterling worth, of enlightened ideas, and of high attainments. An artist of no mean order the exercise of his talent enabled him to produce many admirable pictures of the scenes which he had visited during his naval service. His love of art also proved a great solace and source of occupation to him in his latter years when he was freed from the cares of professional life.

CHARLES ROBERTS, M.R.C.S. ENG., L.S.A.

BY the death of Mr. Charles Roberts Uxbridge loses one of its most prominent townsmen. On the morning of Jan. 7th Mr. Roberts, who had only lately taken a house in Belgrave-road, S.W., was waiting at Victoria Station for the Uxbridge train. While talking to the bookstall clerk he suddenly staggered and fell. He was removed to St. George's Hospital but on his arrival he was found to be dead. At the inquest, which was held on Jan. 10th, the house physician at the hospital, gave evidence of receiving the deceased and said that he considered that death had taken place about 15 minutes previously to his admission. Witness had made a post-mortem examination and had found the heart to be fatty while there was atheroma of the aorta. Death was due to syncope. A verdict was accordingly returned of "Death from natural causes." Mr. Roberts, who was born in 1836, received his medical education at St. George's Hospital where he filled the post of house surgeon. He first practised at Dunster, removing to Uxbridge in 1869. In the same year he was appointed divisional surgeon of police, and he also held the post of surgeon to the post office and of medical officer of health of the Uxbridge Rural Sanitary Authority, afterwards the Rural District Council. He took a great interest in the cricket and cycling clubs, and was a prominent member of the Constitutional Club, the Conservative Association, and of the Primrose League. Latterly he had given up his practice except as regards his public appointments. He was buried on Jan. 11th at Uxbridge, the actual burial service being preceded by a celebration of the Holy Communion in the early morning. For over 30 years he had been one of the best known public men in Uxbridge and his decease is very widely felt as a personal loss. Mr. Roberts, who was twice married, leaves a widow and nine children.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In January the following candidates passed in the subjects indicated:—

Surgery.—S. R. Dudley, St. Bartholomew's Hospital; A. R. U. Hawkes (Sections I. and II.), Liverpool; H. A. Higgens (Section I.), Guy's Hospital; C. G. Meade (Section I.), St. Bartholomew's Hospital; A. U. Parkhurst, Cardiff and St. Mary's Hospital; W. B. Price, St. Thomas's Hospital; F. A. Segreda (Section II.), Guy's Hospital; and A. H. Thomas (Sections I. and II.), and A. J. Watson, (Section II.), St. Mary's Hospital.

Medicine.—S. R. Dudley, St. Bartholomew's Hospital; H. B. Hanson (Section II.), Royal Free Hospital; A. R. U. Hawkes (Sections I. and II.), Liverpool; S. F. Hickman (section I.), Royal Free Hospital; C. J. Marsh, University College Hospital; L. R. Marshall, St. Mary's Hospital; B. S. O. Maunsell (Section I.), St. Bartholomew's Hospital; S. Page (Section I.), Birmingham; F. M. Payne (Section I.), Royal Free Hospital; R. R. Risien (Section I.), St. Bartholomew's Hospital; F. A. Segreda (Sections I. and II.), Guy's Hospital; and W. C. Spooner (Sections I. and II.), Edinburgh.

Forensic Medicine.—S. R. Dudley, St. Bartholomew's Hospital; A. R. U. Hawkes, Liverpool; F. A. Hort, Middlesex Hospital; B. S. O. Maunsell, St. Bartholomew's Hospital; F. M. Payne, Royal Free Hospital; and W. C. Spooner, Edinburgh.

Midwifery.—H. J. Aldous, King's College Hospital; H. T. Barber, Geneva and St. Mary's Hospital; S. F. Hickman, Royal Free Hospital; R. L. Jones, Middlesex Hospital; C. E. H. Leggatt, St. Mary's Hospital; F. McTavish, Toronto; R. A. Pitter, Middlesex Hospital; F. P. Rose, London Hospital; and P. Southan, Birmingham.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—S. R. Dudley, C. J. Marsh, F. A. Segreda, W. C. Spooner, and A. J. Watson.

UNIVERSITY OF CAMBRIDGE.—Mr. P. V. Bevan has been appointed an Assistant Demonstrator in Physics.—Mr. H. A. Wilson has been elected to the Clerk Maxwell Studentship in Experimental Physics.—At the Congregation on Jan. 17th the following medical and surgical degrees were conferred:—

M.B.—G. O. Lambert, St. John's; S. Bousfield, Caius; H. S. Gabb, Downing; and W. L. Ascherson, non-collegiate.

B.C.—W. E. Moore Ede, King's; N. Maclaren, Trinity; G. A. C. Shipman, Trinity; R. H. Urwick, Trinity; G. O. Lambert, St. John's; H. Edmondson, Clare; L. Wilkin, Pembroke; S. Bousfield, Caius; T. W. S. Paterson, Caius; L. B. Scott, Christ's; A. H. Style, Emmanuel; and H. S. Gabb, Downing.

PROPOSED CONSUMPTION SANATORIUM FOR DEVON AND CORNWALL.—At the meeting of the Sanitary Committee of the Cornwall County Council held on Jan. 18th it was decided to recommend the Cornwall County Council to grant £50 per annum for two years for the support of a bed in the proposed sanatorium for the treatment of tuberculosis.

LUNACY IN DEVONSHIRE.—At the meeting of the Plymouth Board of Guardians held on Jan. 15th it was reported that the accommodation for female lunatics in the borough asylum at Blackadon and also in the workhouse was overtaxed. The guardians passed a resolution urging the corporation to proceed with the extension of the asylum as soon as possible.

LITERARY INTELLIGENCE.—Messrs. Herbert S. Stone and Company, Chicago, announce that they have in preparation, and will shortly issue, a Text-book of Special Surgery, translated from the seventh German edition of Dr. Franz Keenig by Arthur B. Hosmer, M.D., and edited by Christian Fenger, M.D. This is the authorised translation of a well-known German work.

VACCINATION GRANTS.—Mr. J. Dibble Staple, M.R.C.S. Eng., L.S.A., public vaccinator for the Asnley district of the Bristol Union, has been awarded a grant for successful vaccination by the Local Government Board.—Mr. Edward James Sheppard, L.R.C.P., L.R.C.S. Edin., public vaccinator for the Clifton district of the Bristol Union, has been awarded the Local Government Board grant for efficient vaccination for the seventh consecutive time.

THE LATE MR. J. G SYMES.—Mr. Joseph Gustavus Symes died at his residence, Southfield House, Weymouth, on Jan. 14th, in his seventy-sixth year. The deceased, who was born at Crewkerne, Somerset, was a son of the late Admiral Symes. He received his medical education at St. George's Hospital, London, and qualified as M.R.C.S. Eng. and L.S.A. in 1848. Shortly afterwards he became medical officer at a private asylum near Devizes, Wiltshire, and in 1854 he was appointed medical superintendent of the Dorset County Lunatic Asylum, which post he held for 33 years.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bonn:* Dr. Karl Grouven has been recognised as *privat docent* of Dermatology.—*Breslau:* Dr. Alfred Schaper has been appointed Extraordinary Professor of Anatomy.—*Cadiz:* Dr. Manuel Roca y Bermudo has been appointed Professor of Histology and of Pathological Anatomy.—*Erlangen:* Dr. J. N. Oeller of Munich has been appointed to the chair of Ophthalmology in succession to Dr. Eversbusch.—*Florence:* Dr. G. Mya has been appointed to the chair of Pediatry.—*Freiburg (Baden):* Dr. Adolf Schüle, *privat-docent* of Medicine, has been promoted to an Extraordinary Professorship.—*Geneva:* Dr. Alcide Jentzer has been appointed Professor of Midwifery and Gynæcology in succession to Dr. Vaucher, resigned.—*Göttingen:* Dr. Verworn, Extraordinary Professor of Physiology in Jena, has been appointed to the chair vacated by Dr. George Meissner, who is retiring.—Dr. Boruttau, First Assistant in the Physiological Institute, has been granted the title of professor.—*Gratz:* Dr. Meinhard Pfaundler has been recognised as *privat-docent* of Pediatry.—*Groningen:* Dr. K. F. Wenckebach of Utrecht has been appointed Professor of Clinical Medicine.—*Heidelberg:* Dr. Fürbringer of Jena has been appointed to the chair of Anatomy.—Dr. Kossel of Marburg has been appointed to the chair of Physiology.—*Iurieff (Dorpat):* Dr. Yevetski of Moscow has been appointed Professor of Ophthalmology.—*Jena:* Professor Maurer, who has been prosector under Professor Gegenbaur, has been appointed to succeed his late chief (who has gone to Heidelburg) in the chair of Anatomy. He has done a considerable amount of original work in embryology and comparative anatomy.—*Kiel:* Dr. Theodor Kirchhoff, *privat-docent* of Psychiatry, has been granted the title of Professor.—*Munich:* Dr. Friedrich Voit and Dr. Richard May have been promoted to Extraordinary Professorships of Medicine.—*Palermo:* Dr. Russo-Travali has been recognised as *privat-docent* of Operative Medicine.—*Strasburg:* Dr. Richard Ewald (brother of Professor Carl A. Ewald, Professor of Medicine) has been appointed to succeed Dr. F. Goltz who is retiring from the chair of Physiology.—Dr. Hermann Fehling of Halle has been appointed to the chair of Midwifery and Gynæcology in succession to Dr. Freund, resigned.—*Tübingen:* Professor Robert Wollenberg of Hamburg has been appointed to the chair of Psychiatry as successor to Dr. Siemerling.—*Vienna:* Dr. Richard Paltauf has been appointed Professor of General and Experimental Pathology in succession to the late Dr. Knoll.—Dr. V. Hammerschlag has been recognised as *privat-docent* of Otology.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ALLEN, H., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer, Crediton Union, vice G. A. H. Barton, resigned.

BARTLETT, T. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer, Halstead Union, vice R. Reynolds.

BRADFORD, W. G. H., M.B., B.C. Camb., has been appointed District Medical Officer, Boxmere and Claydon Union, vice D. M. French, resigned.

BRIGSTOCKE, C. A., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Haverfordwest District in the County of Pembroke.

COLEMAN, E., M.B., B.S. Lond., L.R.C.P., M.R.C.S., has been appointed District Medical Officer, Sleaford Union, vice J. H. Pim, resigned.

DODD, HENRY NOEL N., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Assistant House and Visiting Surgeon to the Stockport Infirmary.

FIELD, R. C., M.B. Lond., has been appointed District Medical Officer, Patrington Union, vice E. Robinson, resigned.

FOX, G. A. T., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer, Dore Union, vice T. C. Lawson, resigned.

HARDY, C. M., M.B., B.S. Durh., has been re-appointed Medical Officer of Health by the Croft Rural District Council.

HOLMES, THOS., M.B. Lond., has been appointed District Medical Officer, Lancaster Union, vice G. R. Parker, resigned.

HOWDEN, ROBERT, M.A. Durh., M.B. Edin., F.R.S.E., has been appointed Examiner in Anatomy in the University of Edinburgh.

HUEY, J. J., L.S.A., has been appointed District Medical Officer, Doncaster Union, vice B. Sweeten, resigned.

JACKSON, H. W., M.D. Lond., D.P.H., has been appointed District Medical Officer, Middlesborough Union, vice A. Webster, deceased.

MACKENZIE, JOHN, L.R.C.P. & L.R.C.S. Edin., has been appointed District Medical Officer and Public Vaccinator for Ingleton, Thornton-in-Lonsdale, and Burton-in-Lonsdale, Settle Union, vice F. A. Griffiths, deceased.

MCLAREN, T. D., M.B., C.M. Edin., has been appointed District Medical Officer, Mitford and Launditch Union, vice B. R. McDonnell, resigned.

MONTGOMERIE, HUGH MAYER, M.D., C.M. Edin., has been re-appointed Physician to the West Cornwall Infirmary, Penzance.

MONTGOMERY, JAMES BARCLAY, M.D. Glasg., L.R.C.P. Lond., M.R.C.S., J.P., has been re-appointed Honorary Consulting Physician to the West Cornwall Infirmary, Penzance.

OYSTON, W. F., M.B., Ch.B. Vict., has been appointed District Medical Officer, Northallerton Union, vice J. Clark, resigned.

PARRY-JONES, MAURICE, M.D., B.S. Lond., M.R.C.S., has been appointed Honorary Physician to the Derbyshire Royal Infirmary.

RIVIERE, CLIVE, M.D. Lond., M.R.C.S., M.R.C.P., has been appointed Pathologist and Registrar to the East London Hospital for Children and Dispensary for Women, Shadwell, vice Thomas D. Lister.

ROBERTSON, WILLIAM, M.D. Glasg., D.P.H., has been appointed Medical Officer of Health for Leith.

SMITH, R. R., L.R.C.P., L.R.C.S. Irel., has been appointed District Medical Officer, West Derby Union, vice J. J. Flinn, resigned.

SYMONS, JOHN, M.R.C.S., L.S.A., J.P., has been re-appointed Surgeon to the West Cornwall Infirmary, Penzance.

THOMPSON, PETER, M.D. Vict., has been appointed Lecturer on Anatomy at the Middlesex Hospital Medical School.

WILKINSON, W. A. H., M.B., Ch.B. Vict., has been appointed Medical Officer of Health, Gainsborough Urban District.

WILLCOX, W. H., M.B., B.Sc. Lond., D.P.H., A.I.C., has been appointed Lecturer on Chemistry and Physics at St. Mary's Hospital Medical School, Paddington, London, W.

YOUNG, C. W., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed District Medical Officer, Luton Union, vice W. Duncan, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM CITY FEVER HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BOLTON INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £120 per annum, with furnished apartments, board, and attendance.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, single. Salary £100 per annum, with board and residence.

CENTRAL LONDON SICK ASYLUM DISTRICT.—First Assistant Medical Officer (salary £100 per annum) and Second Assistant Medical Officer and Dispenser (salary £75 per annum), each with board and residence.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Resident House Surgeon, unmarried. Salary £130 a year, with furnished rooms and attendance.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—Assistant House Surgeon, unmarried. Board and residence provided.

GENERAL HOSPITAL, Nottingham.—House Physician for two years. Salary £100, rising £10 a year to £120, with board, lodging, and washing.

GUEST HOSPITAL, Dudley.—Senior Resident Medical Officer. Salary £100 per annum, increasing £10 a year to £120, with board, residence, attendance, and washing.

GUY'S HOSPITAL MEDICAL SCHOOL.—Gordon Lectureship in Experimental Pathology.

HOSPITAL FOR WOMEN, Soho-square, London, W.—Assistant Physician, also Assistant Surgeon.

LEEDS GENERAL INFIRMARY.—House Physician for six months. Board, lodging, and washing provided.

LEEDS UNION, East Parade, Leeds.—Assistant Medical Officer, single, not above 35, for Workhouse, Schools, and Infirmary. Salary £130 per annum, rising £10 annually to £150, with board, washing, apartments, and attendance (subject to deduction under the Poor-law Officers' Superannuation Act, 1896).

LINCOLN HOSPITAL FOR INSANE.—Locum Tenens for six weeks from about 6th of February. Three guineas a week.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary £100, with board and apartments.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70 per annum. Also Third House Surgeon as Ambulance Surgeon. Salary £70 per annum, with board, residence, and washing.

MIDDLESEX HOSPITAL, W.—Assistant to the Bacteriologist. Salary £80 per annum.

MILLER HOSPITAL and ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer, tenable for six months, with prospect of re-election as Senior. Salary at the rate of £60 per annum, with board, attendance, and washing.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Resident Secretary and House Steward, twenty-eight to forty-five years of age, with previous hospital experience. Salary £150 per annum, rising £10 yearly to a maximum of £200, with apartments, board, and laundry.

NORTH DEVON INFIRMARY, Barnstaple, Devon.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London, W.—Pathologist.

ROXBURGH DISTRICT ASYLUM, Melrose, N.B.—Assistant Medical Officer. Salary £110, rising to £120 per annum, with board, lodging, and washing.

ROYAL SEA-BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £52 per annum, with board and residence.

RURAL DISTRICTS OF BUNTINGFORD, &c., AND CERTAIN URBAN DISTRICTS.—Medical Officer of Health. Salary £600 per annum, including travelling and all other expenses.

ST. BARTHOLOMEW'S HOSPITAL, Rochester.—House Surgeon. Salary £120 per annum, with board, lodging, washing, firing, and light.

SEAMEN'S HOSPITAL SOCIETY.—Senior Dental Surgeon and also Junior Dental Surgeon. No salary, but first-class railway fare between London and the Hospitals will be allowed.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at the rate of £24 per annum, with board, washing, and residence.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies for Certifying Surgeons under the Factory Acts at Totnes, in the County of Devon; at Broughton, in the County of Hants; at Uxbridge, in the County of Middlesex; at Bangor, in the County of Carnarvon; and at Cerrig-y-Druidion, in the County of Denbigh.

UNIVERSITY OF ST. ANDREWS.—Examiner for Graduation in the subject of Physiology.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodgings, washing, and attendance.

WESTERN GENERAL DISPENSARY, Marylebone-road.—Second House Surgeon, unmarried. Salary £75 per annum, with 10s. per month for washing, and board and residence.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year, eligible for election to the post of Senior House Surgeon for a further year. Salary as Junior £75 per annum, with board, residence, &c.; as Senior £100.

Births, Marriages, and Deaths.

BIRTHS.

NUTTALL.—On Jan. 17th, at 18, Clough-street, Bury, Lancs., the wife of A Peel Nuttall, M.D. Lond., of a daughter.

RICHARDSON.—On Jan. 22nd, at Kirkstall, Alverstoke, Hants, the wife of Dr. Martin Richardson, of a daughter.

MARRIAGES.

NEWTON—GRAY.—On Dec. 27th, at Marylebone Presbyterian Church, Upper George-street, W., by the Rev. George Hanson, M.A., D.D., Duncan Gray Newton, M.B., C.M. Edin., Brook-hill, Sheffield, to Janet Mackinnon, daughter of the late Archd. Gray and Mrs. Gray of 37, Holland-park, W.

DEATHS.

KEMP.—On the 2nd of Jan., 1901, at Lewes, G. T. R. Kemp, M.D., late of Nassau, New Providence, Bahamas, aged 68 years.

MYERS.—Died at Pará, Brazil, January 20th, 1901, Walter Myers, M.A., M.B. Cantab., only son of George and Flora Myers, 166, Hagley-road, Birmingham, of yellow fever, contracted whilst working for the Liverpool Tropical School of Medicine, in his twenty-ninth year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DEATH AND QUACKERY.

ON Jan. 18th Mr. R. J. Rhys held an inquest at the Merthyr General Hospital upon the body of William John Lewis, a repairer, who died in the hospital on Jan. 15th. A short reference to this case will be found in a letter from our Welsh correspondent. William Richards, a friend of the deceased, said that they were together on Dec. 22nd. Witness was carrying a four-gallon cask of beer and as he was shifting it to the shoulders of Lewis the cask slipped and fell on to the foot of the deceased. In answer to the coroner witness said that they were not sober but were not drunk. John Lewis, father of the deceased, said that he saw his son's foot on the day following the accident and that then it had a nasty look. On Dec. 24th the deceased went to see Mr. Price, the bone-setter of Pontmorlais. He went again on the two following days, and then as the toe got no better he stopped his visits and the toe was poulticed at home. Mr. Price then took to visiting the deceased at his own home and gave him ointment and oil, and Price and his son-in-law, a man named Davies attended the deceased until his admission to the hospital on Jan. 12th. Mr. P. F. James, assistant to Mr. T. J. Webster saw the deceased about a week after the accident and recommended his removal to the hospital, saying that amputation of the toe should be performed, and warning the parents of the deceased of the danger of blood-poisoning. Deceased worked in the Cwmdu drift and paid in to the "works doctor," but he had faith in Price. Mr. T. J. Webster, surgeon to the Merthyr General Hospital, gave evidence of seeing Lewis on the morning of his admission. The left big toe was smashed and gangrenous, and the lymphatics and veins of the leg were implicated. There was an abscess above the ankle and effusion into the left shoulder-joint. On Jan. 14th the deceased developed pleurisy and he died on Jan. 15th simply from blood-poisoning. The gangrene was not brought on by the ointment and oil, but the case was not treated an tiseptically in any way. Price and Davies gave evidence and detailed how they had treated the case, Davies adding that he had advised the parents to call in a medical man on Jan. 10th because then the patient was "suffering with his body as well." Mr. James gave evidence of seeing the deceased and of recommending his removal to hospital about a week after the accident. The coroner in summing up expressed himself very strongly that the treatment of Price and Davies was nothing but botching. He continued, according to the report in the *Western Mail* of Jan. 19th:—

> Neither of these men was competent to take charge of such a case. If it had been a case of a simple burn he should not have thought very much of it, but when it was a case of a fracture of the toe he thought that in meddling with it Price and Davies were very much to blame. These bone-setters were absolutely irresponsible people, and he considered they did a good deal of mischief. He was continually hearing of cases in which they made a terrible mess of patients. Not long ago he had a case at Hirwain where a man who had been injured underground was mauled about by some person who was called in from Merthyr, in a most shameful way about three days before he died. It did not appear to him that this was a case which amounted to manslaughter, but, at the same time, he could not help expressing the opinion that this poor man's life had been allowed to slip away between this precious couple, Price and Davies. He firmly believed that if a properly qualified doctor had attended the case at the commencement there would have been a very good chance, indeed, of the man being still alive. It was monstrous for people to pay to the works doctor and not to avail themselves of his services. A man's life was of some value to others besides himself, and if he were injured it was his duty to do the best he could to recover. He did not do the best he could to recover if, instead of going to a doctor he went to someone who was nothing more than a quack.
>
> The jury, after a short consultation in private, returned a verdict in accordance with Mr. Webster's evidence.

We have quoted the coroner's remarks because they are so excellent that we can really add nothing to them. It is perfectly inexplicable to us how miners, men who are a very shrewd, hard-headed class, should be so fond of being treated by bone-setters and other quacks. However, as the law stands, if anyone is fool enough to consult such people there is nothing to stop them from practising.

ACCOMPLISHED BATH ATTENDANTS.

ABOUT a year ago the question was raised in a coroner's court at Manchester as to what proportion of the attendants in the Manchester baths were competent to give aid to the apparently drowned. The son of a well-known philanthropist—the late Mr. Thomas Wright—was found unconscious in one of the private baths. In this case the attendant was able to give first aid, but without success. The coroner suggested that all the attendants at all the public baths of the city should be made similarly competent. The Baths Committee took the question up. All the male and female attendants were supplied with

copies of the National Life Saving Society's Handbook, with special suggestions that they should study the Sylvester method, and they were drilled from time to time by a past secretary and examiner of the society. This gentleman has reported the result of the exhaustive examination which he has made as regards the knowledge of the attendants and their skill in using the means of resuscitation. This examination comprised a practical demonstration of the steps necessary for restoring breathing and the reasons for the various movements. Each attendant was made to act in turn the parts of operator, assistant, and patient, and each one of them is stated to be "competent to render assistance to an apparently drowned person until the arrival of medical help." Charts are exhibited in prominent positions in the various baths showing the method of life saving, so that bathers may learn if they wish. This is certainly to the credit of the Baths Committee and it would be well if all the public baths in the country had an equally skilled staff of bath attendants.

CHRONIC DIARRHŒA; SUGGESTIONS FOR TREATMENT DESIRED.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if any of your readers can help me in prescribing for the following case. A man, aged 60 years, has been the subject of chronic diarrhœa for the past 12 months, blood very frequently appearing in the stools. He has not lost flesh and his appetite remains good. I have given him opium, bismuth, chalk, quinine, and a host of other remedies commonly employed, but with no avail.

I am, Sirs, yours faithfully,

Jan. 21st, 1901. PERPLEXED.

AN ARTIFICIAL SPONGE.

WE have received from Mr. C. Hamilton Whiteford of Plymouth a specimen of an artificial sponge which he has devised. It is composed of "camel-hair blanketing" covered with buttercloth. He claims for it the following advantages: (1) easy sterilisation by boiling; (2) great power of absorption; (3) elasticity, with soft, smooth surface; and (4) cheapness, as the materials for each sponge cost 2½d. With the justice of most of these claims we agree, as we have tried the specimen sent to us, pointing out, however, that its power of absorption is certainly less than that of a good sea sponge. It is likely to prove useful in certain cases, as, for instance, when a large, smooth, flat surface is desired. As to the price, the cost must necessarily be decidedly higher than the cost of the material.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you or any of your numerous readers could tell me of a home for a little boy, aged six years, suffering from Friedreich's palsy, and if possible the annual cost.

I am, Sirs, yours faithfully,

JOHN TAYLOR, M.D. Edin.

Ivy Cottage, Rhymney, *viâ* Cardiff, Jan. 19th, 1901.

"THE INCOME-TAX REPAYMENT AGENCY."

To the Editors of THE LANCET.

SIRS,—At this time of the year you have always allowed us to inform your readers of the refunds of income-tax to which they may be entitled. This year the refunds are greater because the rate of tax is much higher. We would call particular attention to the fact that it will soon be too late to claim a return of tax for the year 1897-98. Claims can be made as follows: For the year ended April 5th, 1898, for a refund of (*a*) the whole tax paid or deducted if the income did not exceed £160; (*b*) £5 6*s.* 8*d.* if the income exceeded £160 without exceeding £400; (*c*) £3 6*s.* 8*d.* if the income exceeded £400 without exceeding £500. For each of the years ended April 5th, 1899 and 1900, for a refund of (*a*) the whole tax paid or deducted if the income did not exceed £160; (*b*) £5 6*s.* 8*d.* if the income exceeded £160 but did not exceed £400; (*c*) £5 if it exceeded £400 but did not exceed £500; (*d*) £4 if it exceeded £500 but did not exceed £600; (*e*) £2 6*s.* 8*d.* if it exceeded £600 but did not exceed £700. For the current year to April 5th, 1901: (*a*) the whole tax paid or deducted if the income does not exceed £160; (*b*) £8 if the income exceeds £160 without exceeding £400; (*c*) £7 10*s.* if it exceeds £400 without exceeding £500; (*d*) £6 if it exceeds £500 without exceeding £600; (*e*) £3 10*s.* if it exceeds £600 without exceeding £700. The refund for the four years may thus amount to £24 or to double that amount in case of separate assessment of husband and wife. Claims for four years can still be made on life insurance premiums. A claim for one year can be made on decreased profits from profession, trade, or farming, also for any loss made during the past year, the refund being claimed out of the tax paid on other sources of income. We would call attention to the fact that income-tax can be recovered on rent of property and on dividends said to be paid free of tax.

We are, Sirs, yours faithfully,

THE INCOME TAX REPAYMENT AGENCY.

Chichester-road, Paddington, London, W., Jan. 16th, 1901.

Surgeon writes:—"Does the time a medical officer has passed on retired pay count if required to serve again as 'continuous service towards' an increase of service on again reverting to retired pay? And are officers who have been called upon to volunteer their services in time of war placed on the same footing as if they had actually been recalled? Also are they eligible for further promotion?"

Disgusted has, we think, a very real grievance. We will grant at the outset that he was unduly trustful in sending the originals of his testimonials. Copies should always be sent; if it is necessary for the presumptive employer to see the originals they can be exhibited at a personal interview. Photographs, as our correspondent says, cost money, and common honesty, to say nothing of courtesy, demands the return of both photographs and of testimonials. There are generally many applications for one post, only one man can be successful, and it is the undoubted right of those who are not successful to have the documents returned to them which are necessary for their application for another post. Of course, if an advertiser should state that testimonials and photographs will in no case be returned he is freed from the obligation of returning them, but if no such statement is made they should without doubt be sent back.

Asterion.—1 and 2. The Home Secretary appoints the medical officers of the prison service. 3. The medical visitors of lunatics are appointed by the Lord Chancellor and the Commissioners in Lunacy by the Crown.

Inquirer.—It is not our custom to receive such advertisements.

ERRATUM.—In Dr. Ninian Falkiner's letter on "Arsenic and Aerated Waters" in THE LANCET of Jan. 19th, page 213, line 13, the word "organism" ought to be *arsenium*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 24th, 1901.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall	Solar Radiation. Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks at 8 P.M.
Jan. 18	30·07	S.W.	...	55	49	43	43	44	Overcast
,, 19	29·75	S.	0·07	50	49	44	43	44	Cloudy
,, 20	29·81	S.W.	0·06	73	51	41	40	41	Fine
,, 21	30·21	W.	...	60	54	41	49	50	Foggy
,, 22	30·19	W.	...	56	52	49	47	49	Overcast
,, 23	30·58	N.E.	...	60	47	40	39	41	Foggy
,, 24	30·20	ESE	...	48	45	41	43	44	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (3 P.M.)

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (28th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council Meeting. 8 P.M. Casual Communications:—Mr. C. Schelling: An Obscure Case elucidated by means of the X-rays.—Mr. E. B. Dowsett: A Dental Cyst arising from the Root of a Living Tooth. Paper:—Mons. J. Choquet: The Non-Specificity of the Micro-organisms of Dental Decay (with lantern illustrations).

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Discussion on the Treatment of Typhoid Fever (opened by Dr. F. J. Smith).

WEDNESDAY (30th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Discussion on Anæmia and its Therapeutics (opened by Prof. C. Allbutt).

THURSDAY (31st).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Cases. 8.30 P.M. Papers:—Dr. G. A. Berry: (1) On so-called Paresis of Divergence; (2) Note on Two Rare Forms of Non-paretic Non-concomitant Squint.—Dr. R. D. Batten: "Eclipse Blinding" with Choroido-retinitis and Obstruction of a Retinal Artery.—Mr. A. Critchett: A Case of Bullet Injury of Occipital Lobes with Loss of Lower Half of each Visual Field.—Dr. Edridge-Green: Evolution of the Colour-sense.

FRIDAY (1st).—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Sir Felix Semon, Dr. Broomer, Dr. Wingrave, Dr. Donelan, Mr. Waggett, and others.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—8.30 P.M. Discussion on the Feeding of Infants in Health and Disease.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Paper:—Mr. E. Clarke: The Diagnosis and Treatment of Corneal Affections (illustrated by a number of typical clinical cases). Special General Meeting. In accordance with a requisition signed by five members the Council (under Rule 28) hereby summons a Special General Meeting, to be held at the Royal Dispensary at 8 P.M. on Friday, Feb. 1st, 1901, to consider a proposed addition to the rules enabling the Society to deal with the expulsion of a member legally convicted of any criminal offence involving imprisonment, or complained against for grossly unprofessional conduct.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. H. P. Dunn: Cataract.

TUESDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Taylor: Consultation. (Medical.)

WEDNESDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Harrison: Consultation. (Surgical).

THURSDAY (31st).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Treatment of Inflammatory Affections of the Pharynx and Larynx.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Bruce: Medical Cases. (Post-graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Saunders: Arsenical Neuritis.

FRIDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Consultation. (Throat.) 5-7 P.M. Mr. J. Griffith: Class: The Use of the Ophthalmoscope and Refraction.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1900, which was completed with the issue of Dec. 29th, and the Title-page to the Volume were given in THE LANCET of Jan. 5th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1900, bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers, cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

During the week marked copies of the following newspapers have been received: *Springburn Gazette, Wiltshire Advertiser, Ilford Guardian, Chronicle (West Bromwich), Birmingham Daily Gazette, Manchester Courier, Bath Advertiser, Hereford Times, Guardian (Preston), Scotsman, Surrey Times, Plymouth News, Ealing Times, Rugby Advertiser, Norfolk News, Times of India, Pioneer Mail, Essex Times, Grimsby Express, Bolton Chronicle, Builder, Citizen, Architect, Elgin Courant, Walsall Advertiser, Yorkshire Post, Market Harborough Mail, York Daily Herald, Keighley News, Liverpool Daily Post, Dundee Advertiser, Leeds Mercury, Kent Messenger, Bristol Mercury, Daily Telegraph, Aberdeen Journal, Rangoon Times, Montreal Gazette, Huddersfield Examiner, Ulster Echo, Hertfordshire Mercury, Local Government Chronicle, Reading Mercury, Mining Journal, City Press, Oban Times, Croydon Advertiser, Orkney Herald, Belper Chronicle, West Australian, Surrey Advertiser, Birmingham Daily Post, Local Government Journal, Outlook, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Association for Vaccine Lymph, Lond.; Anthropological Institute, Lond.; Messrs. Armour and Co., Lond.; A. B. H.; Messrs. Allen and Hanburys, Lond.; Mons. J. Astier, Asnières, France.

B.—Mr. B. J. Blackett, Lond.; Messrs. J. Bell and Co., Lond.; Mr. W. H. Baldwin, Ipswich; Dr. Buntershaw, New York; Mr. F. S. Beachcroft, Petworth; T. B. Browne, Ltd., Lond.; Mr. F. A. Brockhaus, Lond.; Mr. W. H. Bennett, Lond.; Mr. H. H. Browne, Barrow-in-Furness; Mr. T. Bryant, Lond.; Mr. J. I. Baxter, Lond.

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L.—Mr. J. F. Leslie, Evesham; Leeds Union, Clerk of; Leeds General Infirmary, Manager of; Dr. Percy G. Lewis, Folkestone; Mr. T. Laffan, Cashel.

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